

Emmanuel O. Agu, PhD

Computer Science Dept., Worcester Polytechnic Institute (WPI), Worcester, MA

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Updated April 16, 2026

BACKGROUND

Summary

- Tenured, full professor of computer science and Artificial Intelligence (AI) at top US tech. University and technology expert with over 25 years of experience in academia, industry R&D, and consulting
- Expertise includes AI especially AI in healthcare, mobile health, medical image analyses using AI, mobile and ubiquitous computing, computational photography and computer graphics.
- One of Boston Business Journal's Innovators in Healthcare for 2026 (research category).
- Extensive publication record includes over 200 peer-reviewed research papers of which over 70 of them are in the area of AI and over 50 papers in AI in healthcare.
- Researched and developed AI-driven systems leveraging smartphone sensor data, imaging, audio, and text analysis to assess various health conditions—including wounds, cardiac disorders, infectious diseases, mental health issues, and traumatic brain injury—through interdisciplinary health research
- Over \$50 million dollars in research funding on various AI projects by various agencies including National Institutes of Health, National Science Foundation, DARPA and companies (Google, Nvidia)
- Media coverage of his work on BBC Radio, Boston Globe, Worcester Telegram and Gazette, and various television channels
- Co-founder of 2 AI-driven healthcare technology startups on wound image and heart ultrasound imaging analyses
- Consultant to various AI startups and intellectual property & co-founder of various high tech. startups
- Inventor with 2 patents and 3 provisional patents on AI in healthcare
- Served as expert witness and a consultant in Intellectual Property (IP) litigation involving software and technology patent infringement.
- Teach advanced courses in digital image analysis, computer graphics, mobile and ubiquitous computing and computer networking.

Academic Experience

- Harold L. Jurist '61 and Heather E. Jurist Dean's Professor, Nov 2021 - Date
- Professor,
 - Computer Science Dept., Worcester Polytechnic Inst. (WPI), July 2018 – Date
 - Electrical & Computer Engineering Dept., WPI, July 2018 – Date
 - Biomedical Engineering, WPI, July 2018 – Date
 - Robotics Engineering, WPI, July 2018 - Date
 - Interactive Media & Game Development (IMGD) Program, WPI, July 2018 – Date
 - Bioinformatics & Computational Biology Program, WPI, July 2018 – Date
 - Data Science Program, WPI, (Affiliated), July 2018 – Date
 - Artificial Intelligence Program, WPI (Affiliated), July 2024 - Date
 - Science, Engineering, and Innovation for Global Development Program, WPI Global School, January 2020 – Date

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- Associate Professor,
 - Computer Science Dept., Worcester Poly. Inst. (WPI), July 2008 – June 2018
 - Electrical & Computer Engineering Dept., WPI, July 2015 – June 2018
 - Biomedical Engineering, WPI, December 2017 – June 2018
 - Robotics Engineering, WPI, January 2018 – June 2018
 - Interactive Media & Game Dev. (IMGD) Program, WPI, July 2008 – June 2018
 - Bioinformatics & Computational Biology Program, WPI, July 2011 – June 2018
 - Data Science Program, WPI, (Affiliated), July 2013 – June 2018
- Assistant Professor,
 - Computer Science Dept., WPI, July 2002 – 2008.
 - Interactive Media & Game Development (IMGD) Program, WPI, July 2005 - 2008
- Visiting Assistant Professor, HRTA Department, School of Management, University of Massachusetts, Amherst, Spring 2002.

Adjunct Faculty Experience

- Mentor, Wound Solutions Team, Global Surgery Slingshot, Kerry Murphy Healey Center for Health Innovation and Entrepreneurship, Babson College, Feb-May, 2026
- Professor, Artificial Intelligence Primer, US Army Research Laboratory, 2023-2024.
- Professor, Applied Machine Learning Course, Nigerian University of Technology and Management (NUTM), Summer 2021, 2022, 2023 & 2024
- Professor, Graphics Processing Unit for General Purpose Computing (GPGPU) Course, British Aerospace Engineering (BAE) Systems, Fall 2011.

Education

1. PhD. in Electrical & Computer Engineering, Univ of Massachusetts, Amherst MA, Sept 2001
Doctoral Dissertation: Diffraction Shading Models for Iridescent Surfaces.
Advisor: Francis. S Hill Jr.
2. M.S. in Electrical & Computer Engineering, Univ of Massachusetts, Amherst MA, May 1996
Master's Thesis: Wireless Local Area Networks Medium Access Control Protocols.
Advisor: Aura Ganz
3. B.Eng., Electrical & Electronics Engineering, University of Benin, Nigeria, April 1994
Undergraduate Thesis: Design and Implementation of a 6-bit Digital Adder,
Advisor: John Igimoh

Work Experience

- Aug 2008 – Dec 2009 Consultant, Raytheon, Marlborough, MA (On sabbatical leave from WPI)
- May 2008 – Nov 2008 Consultant, Fidelity Investments, Boston (On sabbatical leave from WPI)
- Sept.1997 - Aug. 2001 Research Assistant, Electrical and Computer Engr Dept., University of Massachusetts, Amherst, MA

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June-Aug. 1998 Graduate Research Intern, Philips Research, BriarCliff, New York
June-Aug. 1997 Graduate Research Intern, Nokia Research Center, Burlington, MA
Oct 1994 – Sept 1997 Research Assistant, Wireless Multimedia LAN Group, Electrical and Computer Engineering Dept., University of Massachusetts-Amherst.
May-Oct 1992; Sept – Oct. 1991 Engineering Undergraduate Intern, Tara Systems, Lagos, Nigeria,

Leadership

2017 – Date Faculty Director, Health Delivery Institute, WPI, from July

- Lead a university-wide, multidisciplinary research institute advancing healthcare research, education and thought leadership in the areas of precision health, digital and mobile health, medical image analyses, artificial intelligence for healthcare, robotic surgery and health systems engineering.
- Spearhead strategic healthcare-focused research and teaching initiatives that integrate expertise across engineering, computer science, business, and social sciences to address complex healthcare challenges.
- Oversee a collaborative network of 25+ faculty and their research teams, driving innovation in areas such as IoT and smart device-enabled care, precision health, machine learning for health data, cybersecurity for healthcare, and user-centered design.
- Cultivated partnerships with healthcare providers, government agencies, and industry leaders to translate research into impactful solutions for patient care and system efficiency.
- Guided HDI's growth to secure over \$57 million in cumulative funding since 2009, spanning a gamut from small exploratory grants to center-level NIH grants that support cutting-edge research projects and graduate education programs in healthcare informatics, systems and delivery.
- Champion thought leadership through symposia, publications, and educational programs that shape the future of healthcare delivery and policy.
- Mentor emerging scholars and professionals, fostering interdisciplinary talent to lead transformation in the healthcare sector.

Consulting

Oct. – Nov. 2005. Consultant and Expert Witness, Mintz Levin law firm, Boston, MA.
2006 - 2010 Technical and Operations Consultant, UDC Company Limited, Nigeria
October 2007 Consultant, Fanny Mlinarsky, Startup Company on Virtual Fashion

Entrepreneurship Experience

2022 – Date Co-Founder, WoundSys LLC, Wound AI tech. startup from NIH-funded research

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2024 - Date	Co-Founder, Myocardi LLC, Cardiac AI technology Startup Company
2010 – 2020	Senior Advisor on tech. and business strategy, Public Vine, hypergrowth fintech Company
2017 – Date	Senior Advisor on technical and global strategy, WUC technology, data storage Startup
2006 - 2010	Technical and Operations Consultant & Advisor, UDC Company, tech. startup
Aug – Dec 2008	Consultant on GPU technologies, Raytheon, Marlborough, MA
May – Dec 2008	Technical Consultant on GPU technologies, Capital Markets Group, Fidelity Investments
May 1998 – Dec. 1999	Founding Director/CTO, Shoploco.com, Internet shopping portal startup
Mar. 1999 – Nov. 2002	Founding CTO, COO & Interim CEO, Entertainment Communities Online (ECO)
Feb – May 2002	Founding Director, CTO, CEO, Halogenix Corp, Global outsourcing company

Demographic Information

Languages:	English, Ibo (Nigerian language), French (rudimentary)
Citizenship	US and Nigerian (Dual citizen)
Ethnicity	Nigerian American

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SCHOLARSHIP

Research Interests

Mobile and Ubiquitous Computing, Mobile Health, Mobile sensing, Computer Graphics

List of Publications

(Legend: Undergraduate co-authors are underlined; graduate co-authors are bold + underlined)

Book Chapters

- BC1 Emmanuel Agu, Amorn Chokchaisiripakdee, Nuttaworn Sujumnong, Latthapol Krachonkitkosol, Bengisu Tulu, Making Exergames Appealing: An Assessment of Commercial Exergames, *Handbook of Research on Holistic Perspectives in Gamification for Clinical Practice*, Chapter 14, IGI Global Publishers, 2015
- BC2 **Fan Wu**, Emmanuel Agu, **Clifford Lindsay** and Chung-han Chen, On Balancing Energy Consumption, Rendering Speed, and Image Quality on Mobile Devices, *Emergent Trends in Personal, Mobile, and Handheld Computing Technologies*, Chapter 14, IGI Global Publishers, 2012 (20 pp).
- BC3 **Fan Wu**, Emmanuel Agu, **Clifford Lindsay**, and Chung-Han Chen, UbiWave: A Novel Energy-Efficient End-to-End Solution for Mobile 3D Graphics, *Handheld Computing for Mobile Commerce: Applications, Concepts and Technologies* IGI Global Publishers, 2010.

Journals

- J1 **Apiwat Ditthapron**, Adam C. Lammert, and Emmanuel O. Agu, Target Speaker Isolation for Mobile Health Assessment from Speech with Crosstalk, IEEE Access (Accepted, to appear).
- J2 **Nicholas Josselyn**, Sahil Sawant, Rachel Davis-Martin, Elke Rundensteiner, Ben Gerber, Bo Wang, Anthony Rothschild, Emmanuel Agu, Edwin Boudreaux, Feifan Liu, Evaluating Model Generalizability for Suicide Attempt Risk Prediction: Traditional Machine vs Deep Learning, npj Mental Health Research (accepted to appear)
- J3 **Moayad Alshawmar**, Bengisu Tulu, Vance E Wilson, Adrienne Hall-Phillips, **Ibrahim Aljadani**, Emmanuel Agu, "Exploring Common and Novel Actualized Affordances of Fitbit: Evidence from Survey and Fitbit Review Data", JMIR Human Factors, 13, e85412, 2026
- J4 **Palawat Busaranuvong**, Emmanuel Agu, **Reza Saadati Fard**, Deepak Kumar, **Shetalika Gautam**, Bengisu Tulu, and Diane Strong. "Explainable, Multi-modal Wound Infection Classification from Images Augmented with Generated Captions", ACM Transactions on Healthcare (ACM HEALTH), 7 (2), 1-28, 2026
- J5 **Apiwat Ditthapron**, Adam C. Lammert, and Emmanuel O. Agu, 2025. Privacy-preserving Feature Extractor using Adversarial Pruning for TBI Assessment from Speech. *Computer Speech and Language (CSL) Journal*, 2026.
- J6 **Samuel Chibuoyim Uche**, Emmanuel Agu, Kristin Grimone, Debra Herman, Ana Abrantes and Michael Stein, DUI Detection from Gait using a Multichannel 1DCNN-Attention-BiLSTM Framework, IEEE Access, 13, 200861-200882, 2025.

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- J7 **Ruojun Li, Samuel Chibuoyim Uche**, Emmanuel Agu, Kristin Grimone, Debra Herman, Jane Metrik, Ana Abrantes and Michael Stein, Discriminating between Marijuana and Alcohol Gait Impairments using Tile CNN with TICA Pooling, *IEEE Open Journal of Engineering in Medicine & Biology (OJEMB)*, 2025.
- J8 **Reza Saadati Fard**, Emmanuel Agu, **Palawat Busaranuvong**, Deepak Kumar, **Shefalika Gautam**, Bengisu Tulu, and Diane Strong, Multimodal AI for Home Wound Patient Referral Decisions from Images with Specialist Annotations, *IEEE Journal of Translational Engineering in Health & Medicine*, 2025.
- J9 **Muxi Qi, Samuel C. Uche**, and Emmanuel Agu, 2025. Comprehensive Performance Comparison of Signal Processing Features in Machine Learning Classification of Alcohol Intoxication on Small Gait Datasets. *Applied Sciences*, 15(13), p.7250.
- J10 **Palawat Busaranuvong**, Emmanuel Agu, E., **Reza Saadati Fard**, Deepak Kumar, **Shefalika Gautam**, Bengisu Tulu, and Diane Strong, 2025. Explainable, Multi-modal Wound Infection Classification from Images Augmented with Generated Captions. *arXiv preprint arXiv:2502.20277*.
- J11 **Abigail Albuquerque**, Emmanuel Agu and **Samuel Uche**, Intoxication Detection from Speech using Representations Learned from Self-Supervised Pre-Training," Elsevier Smart Health, accepted to IEEE/ACM Conference on Connected Health: Applications, Systems, and Engineering Technologies (CHASE), 2025 (short paper).
- J12 Monica Ahluwalia, Sankalp Sehgal, Grace Lee, Emmanuel Agu, and Jacques Kpodonu, 2025. Disparities in Artificial Intelligence–Based Tools Among Diverse Minority Populations: Biases, Barriers, and Solutions. *JACC: Advances*, 4(5), p.101742.
- J13 **Atifa Sarwar, Abdulsalam Almadani**, and Emmanuel O. Agu. "Early Time Series Classification Using Reinforcement Learning for Pre-Symptomatic Covid-19 Screening From Imbalanced Health Tracker Data." *IEEE Journal of Biomedical and Health Informatics* (2024).
- J14 **Abdulsalam Almadani, Atifa Sarwar**, Emmanuel Agu, Monica Ahluwalia, Jacques Kpodonu, HCM-Echo-VAR-Ensemble: Deep Ensemble Fusion to Detect Hypertrophic Cardiomyopathy in Echocardiograms, *IEEE Open Journal of Engineering in Medicine and Biology OJEMB-00192-2023.R2*, 2024
- J15 **Palawat Busaranuvong**, Emmanuel Agu, Deepak Kumar, **Shefalika Gautam, Reza Saadati Fard**, Bengisu Tulu, and Diane Strong. "Guided Conditional Diffusion Classifier (ConDiff) for Enhanced Prediction of Infection in Diabetic Foot Ulcers, *IEEE Open Journal of Engineering in Medicine and Biology (OJEMB)*, 2024.
- J16 **Atifa Sarwar, Abdulsalam Almadani**, and Emmanuel O. Agu, 2024. Few-shot meta-learning for pre-symptomatic detection of Covid-19 from limited health tracker data. *Smart Health*, p.100459.
- J17 **Wen Ge, Guanyi Mou**, Emmanuel Agu and Kyumin Lee, 2024. Deep Heterogeneous Contrastive Hyper-Graph Learning for In-the-Wild Context-Aware Human Activity Recognition. *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies*, 7(4), pp.1-23
- J18 **Hamza Abujrida**, Emmanuel Agu and Kaveh Pahlavan, 2023. DeepaMed: Deep learning-based medication adherence of Parkinson's disease using smartphone gait analysis. *Smart Health*, 30, p.100430.

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- J19 Monica Ahluwalia, Jacques Kpodonu, Emmanuel Agu, 2023. Risk Stratification in Hypertrophic Cardiomyopathy: Leveraging Artificial Intelligence to Provide Guidance in the Future. *JACC: Advances*, 2(7), p.100562.
- J20 **Apiwat Ditthapron**, Adam C. Lammert, and Emmanuel O. Agu, 2023. Multi-task Deep Learning Methods for Improving Human Context Recognition from Low Sampling Rate Sensor Data. *IEEE Sensors Journal*.
- J21 **Apiwat Ditthapron**, Adam Lammert, Emmanuel Agu. ADL-GAN, 2023. Data Augmentation to Improve In-the-wild ADL Recognition using GANs. *IEEE Access*.
- J22 **Atifa Sarwar**, Emmanuel Agu, and **Abdulsalam Alamadani** 2023. CovidRhythm: A Deep Learning Model for Passive Prediction of Covid-19 Using Biobehavioral Rhythms Derived from Wearable Physiological Data. *IEEE Open Journal of Engr. in Medicine & Biology*, 4, pp.21-30.
- J23 **Ziyang Liu**, Emmanuel Agu, Peder Pedersen, Clifford Lindsay, Bengisu Tulu and Diane Strong, Chronic Wound Image Augmentation and Assessment using Semi-Supervised Progressive Multi-Granularity EfficientNet, *IEEE Open Journal of Engineering in Medicine & Biology (OJEMB)*, 2023.
- J24 **Ruojun Li**, Emmanuel Agu, **Atifa Sarwar**, Kristin Grimone, Debra Herman, Ana Abrantes and Michael Stein, Fine-Grained Intoxicated Gait Classification using a Bi-Linear CNN, *IEEE Sensors Journal*, 2023.
- J25 **Walter Gerych**, **Luke Buquicchio**, **Kavin Chandrasekaran**, **Hamid Mansoor**, Emmanuel Agu, Elke Rundensteiner, 2023. Domain Adaptation Methods for Lab-to-Field Human Context Recognition. *Sensors*, 23(6), p.3081.
- J26 **Hamid Mansoor**, **Walter Gerych**, **Abdulaziz Alajaji**, **Luke Buquicchio**, **Kavin Chandrakasekaran**, Emmanuel Agu, Elke Rundensteiner, Angela Rodriguez, 2023. 2023. INPHOVIS: Interactive visual analytics for smartphone-based digital phenotyping. *Visual Informatics*.
- J27 **David Clement**, Emmanuel Agu, Muhammad Suleiman, John Obayemi, Steve Adeshina and Wole Soboyejo, Multi-class breast cancer histopathological image classification using multi-scale pooled image feature representation (mpifr) and one-versus-one support vector machines. *Applied Sciences*, 13(1), 2022, p.156.
- J28 **Wafaa S. Almuhammadi**, Emmanuel Agu, Jean King, Patricia Franklin, OA-Pain-Sense: Machine Learning Prediction of Hip and Knee Osteoarthritis Pain from IMU Data, In *Informatics* (Vol. 9, No. 4, p. 97), 2022. Multidisciplinary Digital Publishing Institute (MDPI).
- J29 Monica Ahluwalia, MD FACC, Anekwe Onwuanyi, MD, Emmanuel Agu, PhD, Jacques Kpodonu, MD FACC, Advocating for a Path to Increase Diversity in Enrollment in Cardiovascular Clinical Trials. *JACC: Advances*, 1(5), 2022, p.100152.
- J30 **Zhuoran Su**, Kaveh Pahlavan, Emmanuel Agu and Haowen Wei, 2022. Proximity Detection During Epidemics: Direct UWB TOA Versus Machine Learning Based RSSI, *International Journal of Wireless Information Networks*, 29(4), pp.480-490.
- J31 **David Clement**, Emmanuel Agu, John Obayemi, Steve Adeshina and Wole Soboyejo, Breast Cancer Tumor Classification using a Deep Bag of Deep Multi-Resolution Convolutional Features (BoDMCF), *MDPI Informatics*, (Vol. 9, No. 4, p. 91). MDPI.

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- J32 **Ziyang Liu**, **John Josvin** and Emmanuel Agu, 2022. Diabetic Foot Ulcer Ischemia and Infection Classification using EfficientNet Deep Learning Models, *IEEE Open Journal of Engineering in Medicine, and Biology (OJEMB)*, 3, pp.189-201.
- J33 **Atifa Sarwar**, Emmanuel Agu, **Justin Polcari**, **Jack Cirolì**, Benjamin Nephew, and Jean King, 2022. PainRhythms: Machine learning prediction of chronic pain from circadian dysregulation using actigraph data—a preliminary study. *Smart Health*, 26, p.100344.
- J34 **Florina Asani**, **Bhoomi Patel**, **Srinarayan Srikanthan**, Emmanuel Agu, 2023. BioscoreNet: Traumatic Brain Injury (TBI) detection using a multimodal self-attention fusion neural network and a passive bioscore monitoring framework from smartphone sensor data. *Smart Health*, 27, p.100352.
- J35 A M Abrantes, L Z Meshasha, C E Blevins, C Battle, C Lindsay, E Marsh, S Feltus, M Buman, E Agu and M. D. Stein, A Smartphone Physical Activity App for Patients in Alcohol Treatment: Single-Arm Feasibility Trial. *JMIR Formative Research*. 2022 Oct 19;6(10): e35926.
- J36 Allison Borges, Celeste Caviness, Ana M. Abrantes, Debra Herman, Kristin Grimone, Emmanuel Agu, and Michael D. Stein, 2023. User-centered preferences for a gait-informed alcohol intoxication app. *Mhealth*, 9.
- J37 Marie Sillice, Michael Stein, Cynthia Battle, Lidia Meshesha, Clifford Lindsay, Emmanuel Agu, and Ana Abrantes, 2022. Exploring factors associated with mobile phone behaviors and attitudes toward technology among adults with alcohol use disorder and implications for mhealth interventions: exploratory study. *JMIR formative research*, 6(8), p.e32768
- J38 **Apiwat Ditthapron**, Adam Lammert, Emmanuel Agu, 2022. Continuous TBI Monitoring from Spontaneous Speech Using Parametrized Sinc Filters and a Cascading GRU. *IEEE Journal of Biomedical and Health Informatics*, 26(7), pp.3517-3528.
- J39 **Oleksandr Semenov**, Emmanuel Agu, Kaveh Pahlavan and Zhuoran Su, 2022. Covid-19 social distance proximity estimation using machine learning analyses of smartphone sensor data. *IEEE Sensors Journal*, 22(10), pp.9568-9579
- J40 **Qian He** and Emmanuel Agu, 2022. Context-aware probabilistic models for predicting future sedentary behaviors of smartphone users. *Journal of Healthcare Informatics Research*, pp.1-41.
- J41 Edwin Boudreaux, Elke Rundensteiner, Feifan Liu, Bo Wang, Celine Larkin, Emmanuel Agu, Samiran Ghosh, Joshua Semeter, Gregory Simon, Rachel Davis-Martin, 2021. Applying machine learning approaches to suicide prediction using healthcare data: overview and future directions. *Frontiers in psychiatry*, 12, p.707916
- J42 **Hamid Mansoor**, **Walter Gerych**, **Luke Buquicchio**, **Kavin Chandrakasekaran**, Elke Rundensteiner, Emmanuel Agu, 2021. ARGUS: Interactive visual analysis of disruptions in smartphone-detected Bio-Behavioral Rhythms. *Visual Informatics*, 5(3), pp.39-53.
- J43 **Ziyang Liu**, Emmanuel Agu, Peder Pedersen, Clifford Lindsay, Bengisu Tulu, Diane Strong, 2021. Comprehensive assessment of fine-grained wound images using a patch-based CNN with context-preserving attention. *IEEE open journal of engineering in medicine and biology*, 2, pp.224-234.
- J44 **Zhuoran Su**, Kaveh Pahlavan, Emmanuel Agu, 2021. Performance evaluation of COVID-19 proximity detection using bluetooth LE signal. *IEEE access*, 9, pp.38891-38906
- J45 **Apiwat Ditthapron**, Emmanuel Agu, Adam Lammert, 2021. Privacy-preserving deep speaker separation for smartphone-based passive speech assessment. *IEEE Open Journal of Engineering in Medicine and Biology*, 2, pp.304-313

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- J46 **Hamid Mansoor, Walter Gerych, Luke Buquicchio, Kavin Chandrakasekaran** Emmanuel Agu, Elke Rundensteiner, 2021. Visual analytics of smartphone-sensed human behavior and health. *IEEE Computer Graphics and Applications*, 41(3), pp.96-104.
- J47 **Ruojun Li, Ganesh Balakrishnan, Jiaming Nie, Yu Li**, Emmanuel Agu, Kristine Grimone, Debra Herman, Ana Abrantes, Michael Stein, 2021. Estimation of blood alcohol concentration from smartphone gait data using neural networks. *IEEE Access*, 9, pp.61237-61255.
- J48 **Abdulaziz Alajaji, Walter Gerych, Luke Buquicchio, Kavin Chandrasekaran, Hamid Mansoor**, Emmanuel Agu, and Elke Rundensteiner, 2021. Smartphone health biomarkers: Positive unlabeled learning of in-the-wild contexts. *IEEE Pervasive Computing*, 20(1), pp.50-61
- J49 Bengisu Tulu, Diane Strong, Emmanuel Agu and Peder Pedersen, 2020. Search and Evaluation of Coevolving Problem and Solution Spaces in a Complex Healthcare Design Science Research Project. *IEEE Transactions on Engineering Management*.
- J50 **Holly Nguyen**, Emmanuel Agu, Bengisu Tulu, Diane Strong, **Haadi Mombini**, Peder Pedersen, Clifford Lindsay, Raymond Dunn, Lorraine Loretz, Machine Learning Classification of Actionable Care Decisions on Lower Extremity Wounds, Elsevier Smart Health, 18, p.100139.
- J51 **Ameva Wagh, Shubham Jain**, Apratim Mukherjee, Emmanuel Agu, Peder Pedersen, Diane Strong, Bengisu Tulu, Clifford Lindsay and **Ziyang Liu**, Semantic Segmentation of Smartphone Wound Images: Comparative Analysis of AHRF and CNN-Based Approaches, *IEEE Access*, vol. 8, pp. 181590-181604, 2020, doi: 10.1109/ACCESS.2020.3014175.
- J52 **Ada Dogrucu, Alex Perucic, Anabella Isaro, Damon Ball, Ermal Toto**, Elke Rundensteiner, Emmanuel Agu, Rachel Davis-Martin, and Edwin Boudreaux, Moodable: Instantaneous Depression Assessment using Machine Learning on Voice Samples and Retrospectively Harvested Smartphone and Social Media Data, Elsevier Smart Health Journal, vol 17, July 2020.
- J53 **Xixuan Zhao, Ziyang Liu**; Emmanuel Agu; **Ameva Wagh; Shubham P Jain**; Clifford Lindsay; Bengisu Tulu; Diane Strong; Jiangming Kan, Fine-grained diabetic wound depth and granulation tissue amount assessment using bilinear convolutional neural network, *IEEE Access* 7 (2019): 179151-179162.
- J54 **Hamza Abujrida**, Emmanuel Agu, Kaveh Pahlavan, Machine Learning-based Motor Assessment of Parkinson's Disease Using Postural Sway, Gait and Lifestyle Features on Crowdsourced Smartphone Data, *Biomedical Physics and Engineering Express Journal* 2019.
- J55 **Lei Wang**, Peder C. Pedersen, Emmanuel Agu, Diane Strong, Bengisu Tulu, **Qian He**, Boundary determination of foot ulcer images by applying the Associative Hierarchical Random Field framework, *Journal of Medical Imaging e Analysis*, no. 2 (2019): 024002.
- J56 Sherry Pagoto, Bengisu Tulu, Emmanuel Agu, Molly E. Waring, Jessica L. Oleski, and Danielle E. Jake-Schoffman. "Using the habit app for weight loss problem solving development and feasibility study." *JMIR mHealth and uHealth* 6, no. 6 (2018): e145.
- J57 Ana Abrantes, Claire Blevins, Clifford Lindsay, Cynthia L. Battle, Matthew P. Buman, Emmanuel Agu, and Michael Stein. "Formative work in the development of a physical activity smartphone app targeted for patients with alcohol use disorders." *Psychology of Sport and Exercise* 41 (2019): 162-171.

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- J58 **Maryam Hasan**, Elke Rundensteiner, Emmanuel Agu, Automatic Emotion Detection in Text Streams by analyzing Twitter Data", *Springer Int'l Journal of Data Science and Analytics*, February 2019, Volume 7, Issue 1, pp 35–51.
- J59 Charles Lovering, **Anqi Lu**, **Cuong Nguyen**, **Huyen Nguyen**, David Hurley and Emmanuel Agu, (2018). Fact or fiction. *Proceedings of the ACM on Human-Computer Interaction*, 2(CSCW), 111.
- J60 Sherry Pagoto, Jessica Oleski, Molly E Waring, Emmanuel Agu and Bengisu Tulu, Habit App: Feasibility of a Weight Loss Problem Solving App, *Annals Behavioral Medicine*, 2017
- J61 **Maryam Hasan**, Elke Rundensteiner, Xiangnan Kong and Emmanuel Agu, Discover Trends in Public Emotion using Social Sensing, *ACM SIGWeb Newsletter*. Spring, Article 2 (March 2017), 5 pages.
- J62 **Lei Wang**, Peder C. Pedersen, Emmanuel Agu, Diane Strong, Bengisu Tulu, **Qian He**, Area determination of diabetic foot ulcer images using a cascaded two-stage SVM based classification, *IEEE Transactions on Biomedical Engineering*, vol. 64, no. 9, pp. 2098-2109, Sept. 2017.
- J63 **Xiaochen Huang** and Emmanuel Agu (2016) A Speech-Based Mobile App for Restaurant Order Recognition and Low-Burden Diet Tracking. In: Zheng X., Zeng D., Chen H., Leischow S. (eds) *Smart Health. Springer Lecture Notes in Computer Science*, vol 9545, pp 333-339
- J64 Kaveh Pahlavan, **Yishuang Geng**, **Guanqun Bao**, **Liang Mi**, Emanuel Agu, David R. Cave, Andrew Karellas, Vahid Tarokh, Kamran Sayrafian, A Novel CyberPhysical System (CPS) for 3D Imaging of the Small Intestine in Vivo, *IEEE Access Journal*, vol 3, Dec 2015, pp 2730-2742
- J65 **Lei Wang**, Peder C. Pedersen, Diane M. Strong, Bengisu Tulu, Emmanuel Agu, Ron Ignatz, **Qian He**, An automatic assessment system of diabetic foot ulcers based on wound area determination, color segmentation and healing score evaluation, *Journal of Diabetes Technology and Science*, volume 10, Issue 2, 2016
- J66 **Lei Wang**, Peder C. Pedersen, Diane Strong, Bengisu Tulu, Emmanuel Agu and Ronald Ignatz, Smartphone Based Wound Assessment System for Patients with Diabetics, *IEEE Transactions on Biomedical Engineering* vol. 62, no.2, February 2015.
- J67 **Che Sun** and Emmanuel Agu (2015) Many-Lights Real Time Global Illumination Using Sparse Voxel Octree. In: Bebis G. et al. (eds) *Advances in Visual Computing. Springer Lecture Notes in Computer Science*, vol 9475, pages 150-159
- J68 **Qian He**, Emmanuel Agu, Diane Strong, Bengisu Tulu, Peder Pedersen, **Lei Wang**, The Design, Architecture and Implementation of Sugar, an Android Smartphone App for Advanced Diabetes, in Proceedings book of Diabetes Technical Meeting 2013, in *Journal of Diabetes Science and Technology*
- J69 **Clifford Lindsay** and Emmanuel Agu (2014) 3D Previsualization Using a Computational Photography Camera. In: Bebis G. et al. (eds) *Advances in Visual Computing. ISVC 2014. Lecture Notes in Computer Science*, vol 8888, pp 904-914
- J70 **Clifford Lindsay** and Emmanuel Agu (2014) Automatic Multi-Light White Balance Using Illumination Gradients and Color Space Projection. In: Bebis G. et al. (eds) *Advances in Visual Computing. ISVC 2014. Springer Lecture Notes in Computer Science*, vol 8887, pp 579-588
- J71 **Damon Blanchette** and Emmanuel Agu, Real-Time Dispersive Refraction with Adaptive Spectral Mapping, *Int'l Journal on Artificial Intelligence Tools* 22, 1360019 (2013)

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- J72 **Karen Works**, Elke A. Rundensteiner, and Emmanuel Agu, Optimizing Adaptive Multi-Route Query Processing via Time-Partitioned Indices, *Journal of Computer and System Sciences (JCSS)*, Special Issue, "Data Warehousing and Knowledge Discovery from Sensors and Streams", vol 79, issue 3, May 2013, pp 330-348, Elsevier Publisher.
- J73 **Damon Blanchette** and Emmanuel Agu (2012) Adaptive Spectral Mapping for Real-Time Dispersive Refraction. In: Bebis G. et al. (eds) *Advances in Visual Computing. ISVC 2012. Springer Lecture Notes in Computer Science, vol 7431*. Berlin, Heidelberg.
- J74 Diane Strong, Emmanuel Agu, Peder Pedersen and Bengisu Tulu, *Pocket Doctor*, In Patient Care Magazine, Issue 10, 2012, pp 35-37
- J75 **Fan Wu**, Emmanuel Agu, **Clifford Lindsay**, and Chung-han Chen, On Balancing Energy Consumption, Rendering Speed, and Image Quality on Mobile Devices. *Int'l Journal of Handheld Computing Research*, July 2010.
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- J82 Emmanuel Agu, **Kutty Banerjee**, **Shirish Nilekar**, **Oleg Rekutin**, **Diane Kramer**, A Middleware Architecture for Mobile 3D Graphics", *Int'l Journal of Parallel, Emergent and Distributed Systems (IJPEDS)*, special issue on mobile distributed computing", Volume 21, Issue 3, June 2006.
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Conferences and Workshops

- C1 **Trusting Inekwe**, Winnie Mkandawire, Emmanuel Agu, Andres Colubri, A Multi-target Bayesian Transformer Framework for Predicting Cardiovascular Disease Biomarkers during Pandemics", in

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Proc, IEEE/ACM Conference on Connected Health: Applications, Systems, and Engineering Technologies (CHASE), 2026 (short paper)

- C2 Bilal M. Chaudhry, **Palawat Busaranuvong**, Francisco Batiz-Fabella, Eddy C. Rios, Emma N. Mastro, Diane Strong, Bengisu Tulu, Emmanuel Agu, Raymond M. Dunn, Giorgio Giatsidis, Comparison Of A Novel Deep Learning Model With Healthcare Professionals In Chronic Wound Infection Detection, in American Association of Plastic Surgeons (AAPS) Annual Meeting 2025 (Best paper)
- C3 **Kavin Chandrasekaran**, Emmanuel Agu, and Elke Rundensteiner, A Personalized Transformer Neural Network for Accurate Recognition of Health-Indicative Complex Activities from Smartphone Sensors. In Proc. *IEEE-EMBS International Conference on Biomedical and Health Informatics (BHI'25)*.
- C4 Cameron Maitland and Emmanuel Agu, Machine Learning Prediction of Pokemon Go Exergame Enjoyment, IEEE International Conference on Serious Games and Applications for Health (SeGAH), 2025.
- C5 **Trusting Inekwe**, Emmanuel Agu, Winnie Mkandawire, Andres Colubri, A Genetic Neural Architecture Search Framework to Predict Biomarker Status in Cardiovascular Disease Patients during Pandemics", in Proc, IEEE/ACM Conference on Connected Health: Applications, Systems, and Engineering Technologies (CHASE), 2025 (full paper, oral presentation)
- C6 **Abigail Albuquerque**, Emmanuel Agu and **Samuel Uche**, Intoxication Detection from Speech using Representations Learned from Self-Supervised Pre-Training, ", in Proc, IEEE/ACM Conference on Connected Health: Applications, Systems, and Engineering Technologies (CHASE), 2025 (short paper)
- C7 **Wen Ge**, Guanyi Mou, Emmanuel Agu and Kyumin Lee, Semantically Encoding Activity Labels for Context-Aware Human Activity Recognition, IEEE Percom 2025 (short paper).
- C8 **Wen Ge**, Guanyi Mou, Emmanuel Agu and Kyumin Lee, Contrastive Learning with Auxiliary User Detection for Identifying Activities, IEEE ICMLA 2024 (short paper).
- C9 **Mehrdad Shoeibi**, Bengisu Tulu, and Emmanuel O. Agu. Utilizing Generative AI for the Production, Classification, and Annotation of Chronic Wound Images: A Systematic Review, Proc. AMCIS 2024.
- C10 **Trusting Inekwe**, Winnie Mkandawire, Brian Wee, Emmanuel Agu and Andres Colubri, Biomarker Trajectory Prediction and Causal Analysis of the Impact of the Covid-19 Pandemic on CVD Patients using Machine Learning Methods, Proc IEEE CHASE 2024.
- C11 **Walter Gerych**, **Kevin Hickey**, Thomas Hartvigsen, **Luke Buquicchio**, **Abdulaziz Alajaji**, **Kavin Chandrasekaran**, Hamid Mansoor, Emmanuel Agu, and Elke Rundensteiner, Stabilizing Adversarial Training for Generative Networks, Proc IEEE Big Data 2023, Special Session on Machine Learning on Big Data.
- C12 **Apiwat Dittrapron**, Emmanuel Agu, Peder Pedersen, Clifford Lindsay, Bengisu Tulu and Diane Strong, On Rejecting Low Quality Images to Improve Deep Smartphone Wound Assessment, IEEE International Conference on Machine Learning Applications (ICMLA), special session on health, 2023.

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- C13 **Walter Gerych, Kevin Hickey, Luke Buquicchio, Kavin Chandrasekaran**, Abdulaziz Alajaji, Elke Rundensteiner, and Emmanuel Agu, 2023, November. Debiasing Pretrained Generative Models by Uniformly Sampling Semantic Attributes. In *Thirty-seventh Conference on Neural Information Processing Systems (NeurIPS)*.
- C14 **Apiwat Dittthapron**, Adam Lammert, Emmanuel Agu, Masking Kernel for Learning Energy-Efficient Representations for Speaker Recognition and Mobile Health, Proc INTERSPEECH 2023, pages 2843-2847.
- C15 Joshua Audibert, **Elijah Gonzalez, Ryan Orlando, Nicholas Wong**, Emmanuel Agu and Mark Claypool, Machine Learning Prediction of Just Dance Enjoyment from Mobile Sensor Data, Machine Learning Prediction of Just Dance Exergame Enjoyment from Mobile Sensor Data. In *2023 IEEE Conference on Games (CoG)* (pp. 1-8). IEEE.
- C16 **Abdulaziz Alajaji, Kavin Chandrasekaran, Luke Buquicchio, Walter Gerych**, Emmanuel Agu, and Elke Rundensteiner, 2023, June. Adversarial Human Context Recognition: Evasion Attacks and Defenses. In *2023 IEEE 47th Annual Computers, Software, and Applications Conference (COMPSAC)* (pp. 223-232). IEEE (**best paper award**)
- C17 **Abdulsalam Almadani**, Emmanuel Agu, **Atifa Sarwar**, Monica Ahluwalia, and Jacques Kpodonu, 2023, July. HCM-dynamic-echo: A framework for detecting hypertrophic cardiomyopathy (HCM) in echocardiograms. In *2023 IEEE International Conference on Digital Health (ICDH)* (pp. 217-226). IEEE.
- C18 **Hamid Mansoor, Walter Gerych, Abdulaziz Alajaji, Luke Buquicchio, Kavin Chandrasekaran**, Emmanuel Agu and Elke Rundensteiner., 2023, June. Population-Level Visual Analytics of Smartphone Sensed Health and Wellness Using Community Phenotypes. In *2023 IEEE 11th International Conference on Healthcare Informatics (ICHI)* (pp. 420-429). IEEE.
- C19 **Wen Ge, Guanyi Mou**, Emmanuel Agu and Kyumin Lee, Heterogeneous Hyper-Graph Neural Networks for Human Context Recognition, In *2023 IEEE International Conference on Pervasive Computing and Communications Workshops and other Affiliated Events (PerCom Workshops)* (pp. 350-354). IEEE.
- C20 Joshua DeOliveira, **Walter Gerych, Aruzhan Koshkarova**, Elke Rundensteiner, and Emmanuel Agu, 2022, December. HAR-CTGAN: A Mobile Sensor Data Generation Tool for Human Activity Recognition. In *2022 IEEE International Conference on Big Data (Big Data)* (pp. 5233-5242). IEEE
- C21 **Abdulsalam Almadani, Abhishek Shivdeo**, Emmanuel Agu, and Jacques Kpodonu, Deep Video Action Recognition Models for Assessing Cardiac Function from Echocardiograms. In *2022 IEEE International Conference on Big Data (Big Data)* (pp. 5189-5199). IEEE.
- C22 **Hamza Abujrida**, Emmanuel Agu and Kaveh Pahlavan, 2022, December. DeePaGait: Motor Assessment of Parkinson's Disease Using a Multi-Layer 1D Convolutional Neural Network on Smartphone Gait Data. In *2022 IEEE International Conference on Big Data (Big Data)* (pp. 5153-5162). IEEE.
- C23 **Walter Gerych**, Thomas Hartvigsen, **Luke Buquicchio**, Emmanuel Agu, and Elke Rundensteiner, 2022, October. Robust Recurrent Classifier Chains for Multi-Label Learning with Missing Labels. In *Proceedings of the 31st ACM International Conference on Information & Knowledge Management* (pp. 582-591).

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- C25 **Walter Gerych, Thomas Hartvigsen, Luke Buquicchio, Kavin Chandrasekaran, Abdulaziz Alajaji, Hamid Mansoor**, Elke Rundensteiner and Emmanuel Agu, 2022. Positive Unlabeled Learning with a Sequential Selection Bias. In *Proceedings of the 2022 SIAM International Conference on Data Mining (SDM)* (pp. 19-27). Society for Industrial and Applied Mathematics.
- C26 **Wen Ge** and Emmanuel Agu, 2022, January. QCRUFT: Quaternion Context Recognition under Uncertainty using Fusion and Temporal Learning. In *2022 IEEE 16th International Conference on Semantic Computing (ICSC)* (pp. 41-50). IEEE.
- C27 **Walter Gerych, Tom Hartvigsen, Luke Buquicchio**, Emmanuel Agu, Elke Rundensteiner, 2022, June. Recovering the propensity score from biased positive unlabeled data. In *Proceedings of the AAAI Conference on Artificial Intelligence* (Vol. 36, No. 6, pp. 6694-6702).
- C28 **Walter Gerych**, Elke Rundensteiner, Emmanuel Agu, Recurrent Bayesian Classifier Chains for Exact Multi-Label Classification, in Proc NeurIPS 2021 (poster paper)
- C29 **Caitlin Enright, Theodoros Konstantopoulos, Orlando Aviles, Jean-Philippe Pierre**, and Emmanuel Agu, 2021, December. Passive Smartphone Contact Tracing and Continuous COVID-19 Infection Risk Assessment. In *2021 IEEE International Conference on Big Data (Big Data)* (pp. 4675-4686). IEEE.
- C30 **Sayali Shelke** and Emmanuel Agu, TBI2Vec: Traumatic Brain Injury Smartphone Sensing using AutoEncoder Embeddings. In *2021 IEEE International Conference on Big Data (Big Data)* (pp. 4770-4779). IEEE
- C31 **Walter Gerych, Harrison Kim, Joshua DeOliveira, MaryClare Martin, Luke Buquicchio, Kavin Chandrasekaran, Abdulaziz Alajaji, Hamid Mansoor**, Emmanuel Agu, and Elke Rundensteiner, 2021, December. Gan for generating user-specific human activity data from an incomplete training corpus. In *2021 IEEE International Conference on Big Data (Big Data)* (pp. 4705-4714). IEEE.
- C32 **Maryam Hasan**, Elke Rundensteiner, Emmanuel Agu, 2021, December. DeepEmotex: classifying emotion in text messages using deep transfer learning. In *2021 IEEE International Conference on Big Data (Big Data)* (pp. 5143-5152). IEEE.
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- C34 **Bhoomi Kalpesh Patel, Srinarayan Srikanthan, Florina Asani**, and Emmanuel Agu, 2021, December. Machine learning prediction of tbi from mobility, gait, and balance patterns. In *2021 IEEE/ACM Conference on Connected Health: Applications, Systems and Engineering Technologies (CHASE)* (pp. 11-22). IEEE.
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- C37 **Apiwat Dittthapron**, Emmanuel Agu, Adam Lammert, 2021, December. Learning from Limited Data for Speech-based Traumatic Brain Injury (TBI) Detection. In *2021 20th IEEE International Conference on Machine Learning and Applications (ICMLA)* (pp. 1482-1486). IEEE.
- C38 **Oleksandr Semenov**, Emmanuel Agu and Kaveh Pahlavan, 2021, November. Machine learning estimation of COVID-19 social distance using smartphone sensor data. In *2021 43rd Annual International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC)* (pp. 4452-4457). IEEE.
- C39 **Srinarayan Srikanthan, Florina Asani, Bhoomi Kalpesh Patel**, and Emmanuel Agu, 2021, September. Smartphone TBI Sensing using Deep Embedded Clustering and Extreme Boosted Outlier Detection. In *2021 IEEE International Conference on Digital Health (ICDH)* (pp. 122-132). IEEE.
- C40 **Atifa Sarwar** and Emmanuel Agu, September. Passive COVID-19 assessment using machine learning on physiological and activity data from low end wearables. In *2021 IEEE International Conference on Digital Health (ICDH)* (pp. 80-90). IEEE. **(best student paper award)**
- C41 **Shreesha Narasimha Murthy** and Emmanuel Agu, 2021, September. Deep Learning Anomaly Detection methods to passively detect COVID-19 from Audio. In *2021 IEEE International Conference on Digital Health (ICDH)* (pp. 114-121). IEEE.
- C42 **Kavin Chandrasekaran, Walter Gerych, Luke Buquicchio, Abdulaziz Alajaji**, Emmanuel Agu, Elke Rundensteiner, 2021, August. CARTMAN: Complex Activity Recognition Using Topic Models for Feature Generation from Wearable Sensor Data. In *2021 IEEE International Conference on Smart Computing (SMARTCOMP)* (pp. 39-46). IEEE.
- C43 **Songlin Hou**, Clifford Lindsay, Emmanuel Agu, Peder Pedersen, Bengisu Tulu and Diane Strong, 2021. HDR-like image generation to mitigate adverse wound illumination using deep bi-directional retinex and exposure fusion. In *Medical Image Understanding and Analysis: 25th Annual Conference, MIUA 2021, Oxford, United Kingdom, July 12–14, 2021, Proceedings 25* (pp. 307-321). Springer International Publishing.
- C44 **Haadi Mombini**, Bengisu Tulu, Diane Strong, Emmanuel Agu, Clifford Lindsay, Lorraine Loretz, Peder Pedersen, Raymond Dunn, An Explainable Machine Learning Model for Chronic Wound Management Decisions, in Proc. AMCIS conference 2021
- C45 **Hamid Mansoor, Walter Gerych, Luke Buquicchio, Kavin Chandrasekaran, Abdulaziz Alajaji, Aidan Murphy**, Elke Rundensteiner and Emmanuel Agu, 2021. PLEADES: Population Level Observation of Smartphone Sensed Symptoms for In-the-wild Data using Clustering. In *VISIGRAPP (3: IVAPP)* (pp. 64-75).
- C46 **Hamid Mansoor, Walter Gerych, Luke Buquicchio, Kavin Chandrasekaran, Abdulaziz Alajaji, Aidan Murphy**, Elke Rundensteiner and Emmanuel Agu, 2020, December. INTOSIS: Interactive Observation of Smartphone Inferred Symptoms for In-The-Wild Data. In *2020 IEEE International Conference on Big Data (Big Data)* (pp. 4882-4891). IEEE

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- C48 Nicole Etienne and Emmanuel Agu, December. Investigating Transfer Learning of Smartphone-Sensed Stress in University Populations. In *2020 IEEE International Conference on Big Data (Big Data)* (pp. 4850-4858). IEEE.
- C49 **Walter Gerych, Luke Buquicchio, Kavin Chandrasekaran, Abdulaziz Alajaji, Hamid Mansoor, Aidan Murphy,** Elke Rundensteiner and Emmanuel Agu, 2020, December. Burstpu: Classification of weakly labeled datasets with sequential bias. In *2020 IEEE International Conference on Big Data (Big Data)* (pp. 147-154). IEEE.
- C50 **Wen Ge** and Emmanuel Agu, CRUFT: Context recognition under uncertainty using fusion and temporal learning. In *2020 19th IEEE International Conference on Machine Learning and Applications (ICMLA)* (pp. 747-752). IEEE
- C51 **Hamid Mansoor, Walter Gerych, Luke Buquicchio, Kavin Chandrakasekaran,** Elke Rundensteiner, Emmanuel Agu, 2020. ARGUS: Interactive Visual Analytics Framework for the Discovery of Disruptions in Bio-Behavioral Rhythms. In *EuroVis (Short Papers)* (pp. 25-29). **Honorable mention best paper**
- C52 **Haadi Mombini,** Bengisu Tulu, Diane Strong, Emmanuel Agu, Clifford Lindsay, Lorraine Loretz, Peder Pedersen, Raymond Dunn, 2020, August. Do Novice and Expert Users of Clinical Decision Support Tools Need Different Explanations? In *Proceedings of the... Americas Conference on Information Systems. Americas Conference on Information Systems* (Vol. 2020). NIH Public Access.
- C53 **Haadi Mombini,** Bengisu Tulu, Diane Strong, Emmanuel Agu, **Holly Nguyen,** Clifford Lindsay, Lorraine Loretz, Peder Pedersen, and Raymond Dunn, 2020. Design of a machine learning system for prediction of chronic wound management decisions. In *Designing for Digital Transformation. Co-Creating Services with Citizens and Industry: 15th International Conference on Design Science Research in Information Systems and Technology, DESRIST 2020, Kristiansand, Norway, December 2-4, 2020, Proceedings 15* (pp. 15-27). Springer International Publishing.
- C54 **Abdulaziz Alajaji, Walter Gerych, Kavin Chandrasekaran, Luke Buquicchio,** Emmanuel Agu, and Elke Rundensteiner, 2020, February. Deepcontext: Parameterized compatibility-based attention cnn for human context recognition. In *2020 IEEE 14th International Conference on Semantic Computing (ICSC)* (pp. 53-60). IEEE
- C55 **Alexander Fitzgerald, Sam Huang, Kyle Sposato, Dongjie Wang,** Mark Claypool and Emmanuel Agu, The Exergame Enjoyment Questionnaire (EEQ): An Instrument for Measuring Exergame Enjoyment, in Proc.Hawaii International Conference on System Science (HICSS) 2020
- C56 **Hamid Mansoor, Walter Gerych, Luke Buquicchio, Kavin Chandrakasekaran,** Elke Rundensteiner, Emmanuel Agu, 2019, October. Delfi: Mislabeled human context detection using multi-feature similarity linking. In *2019 IEEE Visualization in Data Science (VDS)* (pp. 11-19). IEEE.
- C57 **Ruojun Li,** Emmanuel Agu, **Ganesh Balakrishnan,** Debra Herman, Ana Abrantes, Michael Stein, and Jane Metrik, 2019, November. WeedGait: unobtrusive smartphone sensing of marijuana-induced gait impairment by fusing gait cycle segmentation and neural networks. In *2019 IEEE Healthcare Innovations and Point of Care Technologies, (HI-POCT)* (pp. 91-94). IEEE

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- C59 Hossain Shahriar, Kai Qian, Dan Lo, Mohammad Rahman, Fan Wu, Sheikh Ahamed, Emmanuel Agu, Plugin-based Intervention for Secure Software Development, in Proc IEEE Frontiers in Education Conference (FIE) 2019.
- C60 Md. Arabin Talukder, **Hossain** Shahriar, Mohammad Rahman, Sheikh Ahamed, Fan Wu, Emmanuel Agu, DroidPatrol: A Static Analysis Plugin for Secure Mobile Software Development, Proc. of 43rd IEEE Conference on Computer, Software and Applications (COMPSAC), Milwaukee, WI, July 15-19, 2019, pp. 652-655.
- C61 **Colin Willoughby, Ian Banatoski, Paul Roberts** and Emmanuel Agu, Drunk Selfie: Intoxication Detection from Smartphone Selfie Images, in Proceedings IEEE International Workshop on Integrated Smart Healthcare (WISH 2019) (co-located with IEEE COMSAC)
- C62 **Ruojun Li, Ganesh Balakrishnan, Jiaming Nie, Yu Li**, Emmanuel Agu, Michael Stein, Ana Abrantes, Deborah Herman, Kristine Grimone, On Smartphone Sensability of Bi-Phasic User Intoxication Levels from Diverse Walk Types in Standardized Field Sobriety Tests, in Proc IEEE EMBS EMBC 2019
- C63 **Hamid Mansoor, Walter Gerych, Luke Buquicchio, Kavin Chandrasekaran**, Elke Rundensteiner, Emmanuel Agu, "COMEX: Identifying Mislabeled Human Behavioral Context Data using Data Visual Analytics, in Proc 1st IEEE International Workshop on Deep Analysis of Data Driven Applications (DADA) 2019.
- C64 **Haadi Mombini**, Bengisu Tulu, Diane Strong, Emmanuel Agu, **Holly Ngyuen**, Peder Pedersen, Clifford Lindsay, Raymond Dunn and Lorraine Loretz, Design of a Rule-based Decision Model for Assessment of Chronic Wounds, Late Breaking submissions, DESRIST 2019
- C65 **Walter Gerych**, Emmanuel Agu and Elke Rundensteiner, Classifying Depression in Imbalanced Datasets using an Autoencoder-based Anomaly Detection Approach, in Proc IEEE Conference on Semantic Computing (ICSC) 2019
- C66 **Charles Lovering, Anqi Lu, Cuong Nguyen, Huyen Nguyen**, David Hurley and Emmanuel Agu, Fact or Fiction: An Application to Subvert Fake News, in Proc Conference for Computer Supported Cooperative Work (CSCW) 2018
- C67 Kai Qian, Dan Chia-Tien Lo, Fan Wu, Emmanuel Agu and Bei-Tseng Chu, Authentic Learning Secure Software Development (SSD) in Computing Education, in Proc. IEEE Frontiers in Education (FIE) Conference, 2018.
- C68 **Hamza Abujrida**, Emmanuel Agu and Kaveh Pahlavan, Smartphone-Based Gait Assessment to Infer Parkinson's Disease Severity using Crowdsourced Data, in Proc. IEEE-NIH Special Topics Conference on Healthcare Innovations and Point-of-Care Technologies (HI-POCT '17), Washington DC, 2017

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- C69 Akshay Thejaswi, Aditya Nivarthi, Daniel Beckwith, Clifford Lindsay and Emmanuel Agu, Detruncation of Attenuation Maps using Neural Networks, IEEE nuclear science symposium and medical imaging conference (NSS/MIC) 2017, oral presentation.
- C70 Andrew McAfee, Jacob Watson, Ben Bianchi, Christina Aiello, Emmanuel Agu, AlcoWear: Detecting Blood Alcohol Levels from Wearables, in Proceedings *IEEE Conference on Ubiquitous Intelligence and Computing (UIC) 2017*
- C71 Qian He and Emmanuel Agu, A Rhythm Analysis-Based Model to Predict Sedentary Behaviors, in Proc. IEEE 2nd Int'l Conference on Connected Health: Applications, Systems and Engineering Technologies (CHASE) 2017, Philadelphia, PA
- C72 Sherry Pagoto, Jessica Oleski, Effie Olendzki, Molly Waring, Emmanuel Agu, Bengisu Tulu, Habit App: Feasibility of a Weight Loss Problem Solving App, abstract in the *Annual meeting of the Society of Behavioral Medicine 2017*, San Diego
- C73 Maryam Hasan, Elke Rundensteiner, Xiangnan Kong and Emmanuel Agu, Using Social Sensing to Discover Trends in Public Emotion, in Proc *IEEE Int'l Conference on Semantic Computing (ICSC) 2017* (honorable mention, top 6 best papers)
- C74 Philipp Baumann, Anthony Gallo, Emmanuel Agu and Mark Claypool, Exer-Walls – A Health Alternative to Paywalls in Mobile Games, in Proc *Meaningful Play Conference 2016*
- C75 Qian He and Emmanuel Agu, Smartphone Usage Contexts and Sensable Patterns as Predictors of Future Sedentary Behaviors, in Proceedings of the *IEEE-NIH Special Topics Conference on Healthcare Innovations and Point-of-Care Technologies (HI-POCT '16)*, Cancun, Mexico, Nov 9-11, 2016
- C76 Gauri Pulekar and Emmanuel Agu, Autonomously Sensing Loneliness and Its Interactions with Personality Traits using Smartphones, in Proceedings of the *IEEE-NIH Special Topics Conference on Healthcare Innovations and Point-of-Care Technologies (HI-POCT '16)*, Cancun, Mexico, Nov 9-11, 2016.
- C77 Christina Aiello and Emmanuel Agu, Investigating Postural Sway Features, Normalization and Personalization in Detecting Blood Alcohol Levels of Smartphone Users, in Proc *Wireless Health Conference 2016*, NIH, Bethesda, Maryland
- C78 Emmanuel Agu and Mark Claypool, Cypress: A Cyber-Physical Recommender System to Discover Smartphone Exergame Enjoyment, in Proc *Int'l Workshop on Engendering Health with RecSys, co-located with ACM RecSys 2016*, Boston MA.
- C79 Qian He and Emmanuel Agu, Towards Sedentary Lifestyle Prevention: An Autoregressive Model for Predicting Sedentary Behaviors, *IEEE Medical Information and Communication Technology Conference (ISMICT)*, Worcester, MA, USA, March 20-23, 2016.
- C80 Qian He and Emmanuel Agu, A Frequency Domain Algorithm to Identify Recurrent Sedentary Behaviors from Activity Time-Series Data, *IEEE Int'l Conference on Biomedical and Health Informatics*, Las Vegas, NV, USA on Feb 24-27, 2016.
- C81 Bengisu Tulu, Diane Strong, Lei Wang, Qian He, Emmanuel Agu, Peder Pedersen, Soussan Djamasbi, Design Implications of User Experience Studies: The Case of a Diabetes Wellness App, in Proc *Hawaiian Int'l Conference on System Sciences (HICSS) 2016*.

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- C83 **Qiwen Chen** and Emmanuel Agu, Exploring Statistical GLCM Texture Features for Classifying Food Images, in Proc *IEEE Conference on Healthcare Informatics 2015* (Extended abstract)
- C84 **Zach Arnold, Danielle LaRose, Emmanuel Agu**, A Factorial Experiment to Investigate Naturalistic Factors Affecting Smartphone Gait Analysis, in Proc *17th Int'l Conference on e-Health Networking, Applications and Services (Healthcom) 2015* (short paper)
- C85 **Zach Arnold, Danielle LaRose, Emmanuel Agu**, Smartphone Inference of Alcohol Consumption Levels from Gait, in Proc *IEEE Conference on Healthcare Informatics 2015*
- C86 **Wei Wang, Zhilu Chen, Baoyuan Xing, Xiaochen Huang, Shengwen Han** and Emmanuel Agu, A Smartphone-based Digital Hearing Aid to Mitigate Hearing Loss at Specific Frequencies, in Proc Workshop on Mobile Medical Applications (MMA) 2014, co-located with *ACM Sensys 2014*, Memphis Tennessee
- C87 **Qian He**, Emmanuel Agu, Diane Strong and Bengisu Tulu, RecFit: A Context-Aware System for Recommending Physical Activities, in Proc *Workshop on Mobile Medical Applications (MMA) 2014, co-located with ACM Sensys 2014*, Memphis Tennessee
- C88 **Maryam Hasan**, Emmanuel Agu, Elke Rundensteiner, Using Hashtags as Labels for Supervised Learning of Emotions in Twitter Messages, in *SIGKDD Health Informatics Workshop (HI-KDD)*, co-located with *ACM SIGKDD 2014*
- C89 Diane Strong, Bengisu Tulu, Emmanuel Agu, **Qian He**, Peder Pedersen, **Lei Wang**, Ronald Ignatz, Raymond Dunn, Sherry Pagoto and David Harlan, Design of the Feedback Engine for a Diabetes Self-Care Smartphone App, in Proc *Association for Information Systems Conference (AMCIS) 2014*
- C90 **Maryam Hasan**, Elke Rundensteiner and Emmanuel Agu, EMOTEX: Detecting Emotions in Twitter Messages, in Proc *ASE/IEEE Int'l Conference on Social Computing (Socialcom) 2014*
- C91 **Qian He** and Emmanuel Agu, On11: An Activity Recommendation App to mitigate sedentary Lifestyles, in *Physical Analytics Workshop, co-located with ACM Mobisys 2014*
- C92 **Qian He**, Emmanuel Agu, Peder Pederson, Diane Strong and Bengisu Tulu, "Characterizing the Performance and Behaviors of Runners Using Twitter", (full paper) in Proc *IEEE Int'l Conference on Healthcare Informatics (ICHI) 2013*, Philadelphia, PA
- C93 **Minh Hyunh, Kevin Lo**, and Emmanuel Agu, On Time-Use Surveys for Ubiquitous Computing Solutions in a Pharmacy Environment, (extended abstract) in Proc *IEEE Int'l Conference on Healthcare Informatics (ICHI) 2013*, Philadelphia, PA
- C94 **Punit Dharani, Benjamin Lipson, Devin Thomas**, and Emmanuel Agu, RFID-Based Public Space Navigation System for the Visually Impaired, (extended abstract) in Proc *IEEE Int'l Conference on Healthcare Informatics (ICHI) 2013*, Philadelphia, PA
- C95 Emmanuel Agu, Peder C. Pedersen, Diane Strong, Tulu Bengisu, **Qian He, Lei Wang, Yejin Li**, The smartphone as a Medical Device: Assessing Enablers, Benefits and Challenges, in Proc *Workshop on Design Challenges in Mobile Medical Device Systems (DC-MMDS) (in conjunction with IEEE SECON 2013)*

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- C96 **Andrew Zafft** and Emmanuel Agu, Malicious WiFi Networks: A First Look, in Proceedings, Workshop on Security in Communications Networks (SICK), co-located with *IEEE Conference on Local Computer Networks (LCN)*, Clearwater, Florida, October 2012
- C97 Bengisu Tulu, Diane Strong, Emmanuel Agu, Peder Pedersen, **Qian He**, **Lei Wang**, (2012) "Diabetes Self-Management: Role of Mobile Apps in Supporting Patients with Advanced Diabetes and Foot Ulcers" *Proceedings of Medicine 2.0 5th World Congress on Social Media, Mobile Apps, and Internet/Web2.0*, September 15-16, 2012, Boston, Massachusetts, USA.
- C98 **Karen E Works**, Elke A Rundensteiner, Emmanuel Agu, Index Tuning for Adaptive Multi-Route Data Stream Systems" *Scalable Stream Processing Systems Workshop (SSPS)* 2010.
- C99 **Fan Wu**, Emmanuel Agu, **Clifford Lindsay** and Chung-han Chen, Unequal Error Protection (UEP) for Wavelet-Based Wireless 3D Mesh Transmission, 8th *IEEE Int'l Symposium on Network Computing and Applications (IEEE NCA09)*, Cambridge, MA. July 2009.
- C100 **Clifford Lindsay**, Emmanuel Agu, **Fan Wu**, Dynamic Correction of Color Appearance on Mobile Displays, in Proc. *Graphics Interface Conference*, May 2008
- C101 **Chen-Hao Chang**, **Peter Lohrmann**, Emmanuel Agu, Robert Lindeman, "ENCORE: Energy-Conscious Rendering for Mobile Devices," in Proc *First Workshop on General Purpose Processing on Graphics Processing Units (GPGPU)*, Oct. 4, 2007, Boston, MA.
- C102 **Fan Wu**, Emmanuel Agu, and **Clifford Lindsay**, Pareto-Based Perceptual Metric for Imperceptible Simplification on Mobile Displays, in Proc *European Association for Computer Graphics (Eurographics) Conference 2007*, in Prague, Czech Republic, September 3-7, 2007.
- C103 **Fan Wu** and Emmanuel Agu, UbiWave: Ubiquitous Multiresolution Graphics using Wavelets, in Proceedings of the *Int'l Conference on Artificial Reality and Telexistence (ICAT)* 2006, Nov. 29—Dec. 1, 2006, Hangzhou, China. **Best paper award**
- C104 **Matt Haag**, Rick, Emmanuel Agu, Rick Komerska, Steven G Chappell and Radim Bartos, Status Packet Deprecation and Store-Forward Routing in AUSNet, in Proceedings of the *1st ACM Int'l Workshop on UnderWater Networks (WUWNet)* 2006 (in conjunction with ACM Mobicom), Los Angeles, California, September 24-29, 2006, pages 86 - 92.
- C105 **Paul Timmins**, **Sean McCormick**, Emmanuel Agu, and Craig Wills, Characteristics of Mobile Web Content, in Proceedings of the First *IEEE Workshop on Hot Topics in Web Systems and Technologies (HotWeb)* 2006, Boston, MA. Pages 1-10.
- C106 **B L'Heureux**, **M McHugh**, **B Privett**, R Kinicki and Emmanuel Agu, A Campus-wide Mobile EMS Information Management System, in 1st ACM Workshop on Ubiquitous and Pervasive Healthcare (Ubicare), in Proceedings of the *IEEE Annual Int'l Conference on Pervasive Computing and Communications (PerCom)* 2006. Pages 522-526
- C107 Fernando C. Colon Osorio, Emmanuel Agu, and **Kerry McKay**, Trade-offs between Energy and Security in Wireless Networks, *The Software Defined Radio Technical Conference*, November 14-18, 2005, Orange County, CA.
- C108 Fernando C. Colon Osorio, **Kerry McKay** and Emmanuel Agu, Comparison of security protocols in Mobile Wireless Environments: Tradeoffs's between level of security obtained and battery life, in Proceedings of the *First IEEE/Create-Net Workshop on Security and QoS in Communication Networks*, 2005, Sept. 2005, Athens, Greece.

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- C109 **Cliff Lindsay** and Emmanuel Agu, Spherical Harmonic Lighting of Wavelength-Dependent Phenomena, in Proceedings of the *European Association for Computer Graphics (Eurographics) Conference 2005*, Dublin Ireland. Pages 121 – 124.
- C110 **Kutty Banerjee**, **Fan Wu** and Emmanuel Agu, Estimating Mobile Memory Requirements and Rendering Time for Remote Execution of the Graphics Pipeline, in Proc *European Association for Computer Graphics (Eurographics) Conference 2005*, Dublin Ireland. Pages 125 – 128.
- C111 **Kutty Banerjee**, Emmanuel Agu, Remote Execution for 3D Graphics on Mobile Devices, in Proceedings of *IEEE Int'l Conference on Wireless Networks, Communications and Mobile Computing (WirelessCom) Symposium on Mobile Computing*, Maui, Hawaii, June 13-16, 2005. Pages 1154 – 1159.
- C112 **Kutty Banerjee**, Emmanuel Agu, PowerSpy: Fine-Grained Software Energy Profiling for Mobile Devices, in Proceedings of *IEEE Int'l Conference on Wireless Networks, Communications and Mobile Computing (WirelessCom) Symposium on Mobile Computing*, Maui, Hawaii, June 13-16, 2005. Pages 1136 – 1141.
- C113 Emmanuel Agu, **Kutty Banerjee**, **Shirish Nilekar**, **Oleg Rekutin**, **Diane Kramer** A Middleware Architecture for Mobile 3D Graphics”, in Proceedings of *3rd Int'l Workshop on Mobile Distributed Computing (MDC'05)*, co-located with the *25th Int'l Conf. on Distributed Computing Systems (ICDCS'05)*, Columbus, Ohio (acceptance rate: 33%)
- C114 Fernando Colon-Osorio, Emmanuel Agu, and **Kerry McKay**, “Energy trust models for wireless security protocols – tradeoffs and optimality, in Proc *IEEE Int'l Performance, Computing and Communications Conference (IPCCC) 2005*, Phoenix, Arizona, April 7 – 9, 2005. (acceptance rate: 30%). Pages 293 – 302.
- C115 **Ali Taheri**, **Arvinder Singh** and Emmanuel Agu, Location Fingerprinting on Infrastructure 802.11 Wireless Local Area Networks (WLANs) using Locus, Fourth Int'l *IEEE Workshop on Wireless Local Networks*, in Proceedings of *IEEE Local Computer Networks Conference (LCN) 2004*, Tampa, Florida (acceptance rate: 35%). Pages 676-683
- C116 **Ali Taheri**, **Arvinder Singh** and Emmanuel Agu, Locus: A Tool for Tag-less Location Sensing on 802.11 Wireless LANs with Display in SVG, in Proceedings of *Scalable Vector Graphics (SVG) Open Conference 2004*.
- C117 **Mingzhe Li**, Emmanuel Agu, Mark Claypool, Robert Kinicki and **Choong-Soo Lee**, Performance Enhancement of TFRC in Wireless Networks, in Proceedings of *Special Session on Multimedia Streaming in Ad hoc Networks at the 2004 Int'l Conference on Distributed Multimedia Systems (DMS '04)*, San Francisco Bay, California. Pages 127 – 132.
- C118 **Tom Beigbeder**, **Rory Coughlan**, **Corey Lusher**, **John Plunkett**, Emmanuel Agu, and Mark Claypool. The Effects of Loss and Latency on User Performance in Unreal Tournament 2003, in Proceedings of *ACM SIGCOMM Workshop on Network and Systems Support for Games (NetGames) 2004*. Pages 144 - 151.
- C119 **Choong-Soo Lee**, Emmanuel Agu, Mark Claypool, Robert Kinicki and **Mingzhe Li**. Low Delay Marking for TCP in Wireless Ad Hoc Networks, in IEEE Workshop on Multihop Wireless Networks (MWN), in Proceedings of *IEEE Int'l Performance, Computing and Communications Conference (IPCCC)*, Phoenix, Arizona, USA, 2004

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- C120 Nathan Sheldon, Eric Girard, Seth Borg, Mark Claypool, and Emmanuel Agu. The Effect of Latency on User Performance in Warcraft III, in Proceedings of *ACM SIGCOMM Workshop on Network and Systems Support for Games (NetGames)*, May 2003. **Best paper award**. Pages 3 – 14.
- C121 Emmanuel Agu and Francis S Hill Jr., " Diffraction Shading Models for Iridescent Surfaces", in Proc. *IASTED Conference on Visualization, Imaging and Image Processing (VIIP) 2002*. Malaga Spain, 2002
- C122 Daniel Awduche and Emmanuel Agu, "Mobile Extensions to RSVP," "in Proc. *Int'l Conf. On Computer Communications and Networks (ICCCN)*, Las Vegas, Sept 22-27, 1997. Pages 132 – 136.
- C123 Emmanuel Agu and Aura Ganz, "A Resource Reservation Protocol for Wireless Local Area Networks," in Proc. *Massachusetts Telecommunications Conference (MTC) 1996*

Posters

- Po1 Haadi Mombini, Emmanuel Agu, Diane Strong, Holly Nguyen, Clifford Lindsay, Lorraine Loretz, Peder Pedersen, Raymond Dunn, Bengisu Tulu, Prediction of Chronic Wound Care Decisions Using Machine Learning, AMIA 2020 Posters
- Po2 Kai Qian, Hossain Shahriar, Fan Wu, Cassandra Thomas and Emmanuel Agu, Broadening Secure Mobile Software Development (SMSD) Through Curriculum Development, Poster Session, *ACM SIGCSE 2017*, Seattle, WA, March 8-11, 2017.
- Po3 Bengisu Tulu, Emmanuel Agu, Stephenie Lemon, Jessica Oleski, Martinus Evans, Sherry Pagoto, Smart Coach: A Problem-Solving Mobile App to Support Weight Loss Management, in Proc *American Medical Informatics Association (AMIA) 2015* (poster)
- Po4 Maryam Hasan, Elke Rundensteiner, Emmanuel Agu, Using Hashtags as Labels for Supervised Learning of Emotions in Twitter Messages (poster), in *New England Database Day (NEDBDay)* January 2015, MIT
- Po5 Lei Wang, Peder C. Pedersen, Diane Strong, Bengisu Tulu, Emmanuel Agu, Qian He, Assessing Diabetic Foot Ulcer Healing at Wound Clinics: Development of a tracking system using SVM based classification, in *Diabetes Technical Meeting (DTM) 2014* (poster), Bethesda, MD
- Po6 Diane Strong, Emmanuel Agu, Peder C. Pedersen, Bengisu Tulu, Qian He, Lei Wang, Ronald Ignatz, Raymond Dunn, David Harlan, and Sherry Pagoto, *Sugar: A Mobile Phone App for Diabetes and Diabetic Wound Management*, in Proceedings American Medical Informatics Association (AMIA) 2013 (poster)
- Po7 Diane Strong, Peder C. Pedersen, Emmanuel Agu, Bengisu Tulu, Lei Wang, Qian He, Dr. Ronald Ignatz, Dr. Raymond Dunn, Dr. David Harlan, and Dr. Sherry Pagoto, Smartphone-Based Wound Assessment System for Diabetic Patients, in *Diabetes Technical Meeting (DTM) 2013* (poster)
- Po8 Lei Wang, Peder C. Pedersen, Diane M. Strong, Bengisu Tulu, Emmanuel Agu, Qian He, Detection of diabetic foot ulcers using SVM based classification, *University of Massachusetts Center for Clinical and Translational Science, 5th Annual Research Retreat*, May 2014
- Po9 Qian He, Emmanuel O. Agu, Diane M. Strong, Bengisu Tulu, Peder C. Pedersen Characterizing the Performance and Behaviors of Runners Using Twitter, *University of*

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Massachusetts Center for Clinical and Translational Science, 5th Annual Research Retreat, May 2014

- Po10 **Qian He** and Emmanuel O. Agu, A Context-Aware Activity Recommendation Smartphone Application to Mitigate Sedentary Lifestyles, *University of Massachusetts Center for Clinical and Translational Science, 5th Annual Research Retreat, May 2014*
- Po11 **Lei Wang**, Peder C. Pedersen, Emmanuel Agu, Diane Strong, Tulu Bengisu, Wound Image Analysis System for Diabetics, in Proc. *Int'l Society for Optics and Photonics (SPIE) Medical Imaging Conference*, (poster) Lake Buena Vista, FL, Feb. 9 - 14, 2013
- Po12 Bengisu Tulu, Emmanuel Agu, **Michael Ng**, **Evan Duderewicz**, **Brendan Harris**, **Thomas Jenkins**, **Kenneth Miyaguchi**, Tiffany Moore-Simas, Milagros Rosal, (2011) "Mom-O-Meter: A self-help pregnancy Android app". Poster, *American Medical Informatics Association (AMIA) 2011 Annual Symposium*, October 2011, Washington, D.C., USA.
- Po13 **Karen Works**, Elke Rundensteiner, Emmanuel Agu, Indexing Adaptive Multi-Route Data Stream Systems, Poster, *New England Database Day (NEDBDay)* January 2009, MIT.
- Po14 **Karen Works**, Elke Rundensteiner, Emmanuel Agu, "Index System for Adaptive Multi-Route Data Stream Systems", Poster, *CRA-W Grad Cohort for Women Program*, April 2009,
- Po15 **Fan Wu**, Emmanuel Agu and **Clifford Lindsay**, Adaptive CPU Scheduling to Conserve Energy in Real-Time Mobile Graphics Applications, (Short paper and Research Poster), *Pacific Graphics 2008*, Tokyo, Japan. October 2008.
- Po16 **Fan Wu** and **Emmanuel Agu**, Unequal Error Protection for Wavelet-Based Wireless Mesh Transmission, in 33rd *ACM Int'l Conference on Computer Graphics and Interactive Techniques (SIGGRAPH 2006)* (Research poster), Boston, MA July 30 – August 3, 2006.
- Po17 **Clifford Lindsay** and Emmanuel Agu, Real-Time Wavelength-Dependent Rendering Pipeline, in 33rd *ACM Int'l Conference on Computer Graphics and Interactive Techniques (SIGGRAPH 2006)* (Research poster), Boston, MA July 30 – August 3, 2006.

Patents

- P1 Ziyang Liu, Reza Sadaarti, Emmanuel Agu, Bengisu Tulu, Diane Strong, Peder Pedersen, Raymond Dunn, Clifford Lindsay Wound Assessment and Classification, Utility Provisional Patent Application, number 63/601,114
- P2 Akshay Iyer, Raghav Nagpal, Apiwat Ditthapron, Emmanuel Agu, Bengisu Tulu, Diane Strong, Peder Pedersen, Raymond Dunn, Clifford Lindsay Wound Image Gathering and Clarification, Utility Provisional Patent Application, number 63/601,117
- P3 Abdulsalam Almadani, Abhishek Shivdeo, Emmanuel Agu Atifa Sarwar, Jacques Kpodonu, Monica Ahluwalia Cardiac Function Assessment and Classification, Utility Provisional Patent Application, number 63/601,605
- P4 Peder Pedersen, Diane Strong, Emmanuel Agu, Bengisu Tulu, Lei Wang, Qian He and Raymond Dunn, System, and method for assessing wound, US Patent number US 20150119721 A1, 2014
- P5 Christina Aiello and Emmanuel Agu, Mobile blood alcohol content and impairment sensing device, US Patent number US20180284100A1, 2017

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Awards/Honors Related to Scholarship

- AT1 Harold L. Jurist '61 and Heather E. Jurist Dean's Professor, Nov 2021 – Date
- AT2 Best paper, Bilal M. Chaudhry, **Palawat Busaranuvong**, Francisco Batiz-Fabella, Eddy C. Rios, Emma N. Mastro, Diane Strong, Bengisu Tulu, Emmanuel Agu, Raymond M. Dunn, Giorgio Giatsidis, Comparison Of A Novel Deep Learning Model With Healthcare Professionals In Chronic Wound Infection Detection, in American Association of Plastic Surgeons (AAPS) Annual Meeting 2025.
- AT3 Best paper award, Abdulaziz Alajaji, Kavin Chandrasekaran, Luke Buquicchio, Walter Gerych, Emmanuel Agu and Elke Rundensteiner, Adversarial Human Context Recognition: Evasion Attacks and Defenses, IEEE COMPSAC 2023.
- AT4 Best student paper award, Atifa Sarwar and Emmanuel Agu, Passive COVID-19 Assessment using Machine Learning on Physiological and Activity Data from Low End Wearables, in Proc IEEE International Conference on Digital Health (ICDH) 2021
- AT5 Honorable mention best paper, EuroVis 2020 short papers, Hamid Mansoor, Walter Gerych, Luke Buquicchio, Kavin Chandrasekaran, Elke Rundensteiner, Emmanuel Agu, ARGUS: An Interactive Visual Analytics Framework for the Discovery of Disruptions in Bio-Behavioral Rhythms
- AT6 Member, National Academy of Inventors (NAI), inducted May 2017
- AT7 Honorable mention, top 6 best papers for paper by Maryam Hasan, Elke Rundensteiner, Xiangnan Kong and Emmanuel Agu, Using Social Sensing to Discover Trends in Public Emotion, in Proc IEEE Int'l Conference on Semantic Computing (ICSC) 2017
- AT8 Best paper award for paper by Fan Wu and Emmanuel Agu, UbiWave: Ubiquitous Multiresolution Graphics using Wavelets, in Proc. Int'l Conference on Artificial Reality and Telexistence (ICAT) 2006.
- AT9 Best paper award for paper by Nathan Sheldon, Eric Girard, Seth Borg, Mark Claypool, and Emmanuel Agu. The Effect of Latency on User Performance in Warcraft III, in Proc. *ACM NetGames* 2003, May 2003.
- AT10 Eugene M. Isenberg Scholarship, 1998-1999 (for \$10,000), 1999-2000 (for \$10,000)
- AT11 James F. Naurison Scholarship, 1998-1999 (for \$500)

Research Software (27)

- RS1 *PLEADES* Population Level Observation of Smartphone Sensed Symptoms for In-the-wild Data using Clustering.
- RS2 *INTOSIS* Visual Analytics framework for visualizing and contextualizing smartphone-sensed health symptomatic days.
- RS3 *ARGUS* Visual Analytics framework for visualizing and contextualizing smartphone-sensed circadian rhythms (sleep-wake cycles) & disruptions.
- RS4 *COMEX* Visual Analytics framework for discovering wrong user-assigned labels. In smartphone sensing studies in-the-wild based on computed anomaly scores

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RS5	<i>DELFI</i>	Visual Analytics framework for discovering wrong user-assigned labels. In smartphone sensing studies in-the-wild based on feature similarity
RS6	<i>SmartWAnDS</i>	Wound care smartphone app that uses machine learning to automatically analyze wound images to assess healing progress.
RS7	<i>Weedgait</i>	Smartphone sensing app, infers impairment in marijuana users.
RS8	<i>Alcogait</i>	Smartphone sensing app, infers Users' intoxication level from their gait.
RS9	<i>Alcowatch</i>	Smartwatch sensing app, infers users' intoxication level from their gait.
RS10	<i>AlcoContextualizer</i>	Smartphone app, displays visualizations of recurrent drinking contexts to support reflection
RS11	<i>Cypress</i>	Exergame smartphone-based system that recommends new games based on sensed user enjoyment level
RS12	<i>BMS</i>	Security system that authenticates smartphone users based on their unique behaviors (locations visited, phone interaction style, apps used)
RS13	<i>Socioloscope</i>	Smartphone sensing app, infers users' loneliness level from their communication and phone usage patterns
RS14	<i>RELAX</i>	Mobile app targeting obesity caused by overeating due to stress
RS15	<i>Sugar</i>	Diabetes and wound care smartphone app that uses machine learning to automatically analyze wound images to assess healing progress.
RS16	<i>SmartCoach</i>	Obesity smartphone counseling application
RS17	<i>On11</i>	Activity and sedentary lifestyle tracking smartphone application. At its peak, the Smartwatch On11 version had over 30,000 subscribers worldwide.
RS18	<i>RecFit</i>	Physical activity recommendation smartphone application
RS19	<i>EMOTEX</i>	Twitter mining application, uses machine learning to detect emotions expressed in short messages.
RS20	<i>Mom-O-Meter</i>	Mobile health application for mitigating gestational diabetes.
RS21	<i>PCam</i>	Programmable digital camera for Computational Photography
RS22	<i>UbiWave</i>	Distributed multiresolution graphics framework using wavelets.
RS23	<i>MADGRAF</i>	Middleware framework for graphics on mobile devices
RS24	<i>RMesa</i>	Remote execution module for mobile 3D graphics applications
RS25	<i>PowerSpy</i>	Software-only tool that profiles application procedure, thread, and I/O energy
RS26	<i>LOCUS</i>	Tagless Location Sensing module for infrastructure 802.11 Wireless LANs
RS27	<i>Review</i>	Bi-directional Reflectance (BRDF) viewer.

Major Grants Awarded as PI, co-PI, or senior personnel (Over \$72 million Funding)

- G1 GRANT14592828, National Institutes of Health, BURT at Worcester Polytechnic Institute (BURT@Wπ), Multi-PI: Billiar, K., Olsen, C., Manning, A., NIGMS Institutional Biomedical Undergraduate Research Training (BURT) Program (T34); Requested: \$4,667,304 over 5 years.
- G2 1T32HL171799-01 CardiOvascular Digital hEalth Research (CODER) Training Program, NIH National Heart Lung and Blood Institute (NHLBI) T32 grant, MPIs McManus/Gerber UMMS, WPI mentors: Emmanuel Agu, Funding Amounts: \$ 1,522,433, Award Dates: 01/01/2024 – 12/31/2028

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- G3 1UG3NS135168 IMPACT: Integrative Mindfulness-Based Predictive Approach for Chronic low back pain Treatment, UG3, NIH HEAL Initiative, King, Agu and Morone MPIs, Nephew, Ruiz, Wu, Rodriguez (co-I's), requested amount: \$8,842,270. Award dates: Sept 19, 2023, to October 2028.
- G4 1P50MH129701-01A1 Center for Accelerating Practices to End Suicide through Technology Translation (CAPES) P50, NIH/NIMH, Boudreaux and Kiefe MPIs, MPI Methods Core, Member Executive and Steering committees, and Advisory Boards (Over 20 researchers from WPI and UMMS), Award amount: \$16,000,000 Requested dates: April 2023 to March 2028.
- G5 1R01EB031910-01A1 Smartphone-based wound infection screener by combining thermal images and photographs using deep learning methods, PI Agu, co-PIs: Lindsay, Tulu and Strong, Award amount: \$ 2,458,174. Award dates: Sept 1, 2022, to May 31, 2026.
- G6 2 T32 CA172009 Prevention and Control of Cancer: Training for Change in Individuals and Systems (PRACCTIS 2.0), NIH National Cancer Institute (NCI), T32 grant, MPIs Lemon/Houston UMMS, WPI mentors: Emmanuel Agu, Dmitry Korin, Elke Rundensteiner, Sharon Johnson, Diane Strong, Funding Amounts: \$1,558,829, Award Dates: 08/08/2019 – 07/31/2024
- G7 Design and Synthesis of Materials for Agile Manufacturing, Danielle Cote (PI), Army Research Labs (ARL), Funding Amount: \$24,999,821.00, Award Dates: 08/15/19 – 08/14/22
- G8 HR001117S0032-WASH-FP-031, DH-Warfighter: Improving Warfighter Health by Early Detection of Digital Biomarkers, Emmanuel Agu (PI), Elke Rundensteiner (co-PI), Defense Advanced Research Agencies (DARPA). Funded Amount \$2,803,313. Award dates 3/1/2018 – 2/28/2022
- G9 1R01EB025801-01 SCH: INT: Smartphone Wound Image Parameter Analysis and Decision Support in Mobile Environments, Emmanuel Agu (PI), Diane Strong (co-PI), Bengisu Tulu (co-PI), National Science Foundation, Smart and Connected Health Program. Requested amount \$1,968,571. Award dates 1/1/2018 – 11/30/2023 (2 NCEs) (funded by NIH NIBIB)
- G10 Data-driven healthcare proposal (D3Health) proposal to the Mass. Life Sciences Fund, Luzuriaga, McManus (PIs), collaboration between UMass Medical School, WPI and HDI, \$6 million.
- G11 1R21AA025193-01Machine Learning Approach for Inferring Alcohol Intoxication Levels from Gait Data, Michael Stein (PI), Emmanuel Agu (PI), Ana Abrantes (co-I), NIH R21 National Institute on Alcoholism. PA-14-188. Requested amount \$408,578, WPI sub-contract amount (\$115,469). Award Dates 7/1/17-6/30/19
- G12 NSF Award # 1723555 Collaborative Research: Broadening Secure Mobile Software Development (SMSD) Through Curriculum and Faculty Development, Fan Wu (PI), Cassandra Thomas (co-PI), Kai Qian (co-PI), Hossain Shahriar (co-PI), Emmanuel Agu (co-PI). Requested amount (\$498,970), WPI Share \$149,487. Award Dates 09/01/17-08/30/20
- G13 NIH 1R21DA041153-01A1 A Smartphone App to Facilitate Buprenorphine Discontinuation, PI: Abrantes, co-PIs: Michael Stein, Emmanuel Agu. NIH NIDA submission, Award amount: \$103,609. Award dates: 6/15/16 – 5/31/18
- G14 SocioScope: A Passive System to Infer Loneliness from the Interaction and Communication Patterns of Smartphone Users, Emmanuel Agu (PI), WPI Health Delivery Institute (HDI) Internal Proposal. Award amount \$21,000, Award dates June 1-August 31, 2016.
- G15 KERN Entrepreneurial Engineering Network grant, Developing the Entrepreneurial Engineer, Glenn Gaudette (PI), Emmanuel Agu Entrepreneurial Engineering Faculty (EEF) Award Amount: \$1,760,000. Award dates June 2016 – April 2019

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- G16 NIH R21AA024295 A Tailored Physical Activity Smartphone App for Patients with Alcohol Dependence, Abrantes (PI), co-PIs: Michael Stein, Emmanuel Agu, Award amount: \$207,207. Award Dates: 4/1/16-3/31/21
- G17 NSF REU SITE Award IIS-1560229: Data science research for healthy, safe, and sustainable communities, Elke Rundensteiner and Fatemeh Emdad (PIs), Program faculty: Emmanuel Agu, Mohamed Eltabakh, Carolina Ruiz, Xiangnan Kong, Yanhua Li, Lane Harrison, Dmitry Korkin, Jian Zou, Randy Paffenroth. Award Amount: \$358,574. Award Dates: May 1, 2016 - April 30, 2019
- G18 KERN Entrepreneurial Engineering Network grant, Developing the Entrepreneurial Engineer, Glenn Gaudette (PI), Emmanuel Agu Entrepreneurial Engineering Faculty (EEF) Award Amount: \$488,500. Award dates June 2015 – April 2016
- G19 NIH R01HL122302, Project Title: RELAX: A Mobile Application Suite Targeting Obesity and Stress, Principal Investigator: Pagoto, Sherry L, WPI co-PIs: Bengisu Tulu (School of Business), Emmanuel Agu (Computer Science), Tsung-Ye Wang (School of Business). Award amount: \$1,952,780. WPI sub-contract: \$618,546. Award dates: 12/1/2014 - 11/30/2017
- G20 Grant Number: 1 R21 DK098556-01, Project Title: Feasibility Trial of a Problem-Solving Weight Loss Mobile, Principal Investigator: Pagoto, Sherry L, WPI co-PIs: Bengisu Tulu (School of Management), Emmanuel Agu (Computer Science). Award amount: \$470,393. WPI sub-contract: \$90,020. Award dates: 4/1/2013 - 3/31/2015
- G21 NSF Award Number 1065298, SHB: Medium: Self-Care Management: Patient-Centered Diabetic Wound Care Using Smart Phones, National Science Foundation, CISE Smart Health and Wellbeing program, D. Strong, PI, E. Agu, R. Ignatz, P. Pedersen, B. Tulu, Co-PIs, Award amount: \$1,200,000. Award dates: September 1, 2011 - August 31, 2015.
- G22 Matthew Ward (PI) and Emmanuel Agu, George Heineman, Neil Heffernan (co-PIs), Fellowships in Computer Science to Support the Learning Sciences and Security, GAANN proposal, Award amount: \$804,940, (\$177,610 cost-sharing). Award dates: 8/06 to 7/09.
- G23 Kaveh Pahlavan (PI) and Emmanuel Agu (co-PI), An Integrated Multi-Layer Wireless LAN Testbed, MRI equipment grant from the National Science Foundation (NSF), #0303592 Award amount: \$380,000. Award dates: September 2003 – August 2005.

Minor Grants (< \$50,000 award amount) as PI, co-PI, or senior personnel (>\$180,000 total)

- G24 Cardiomyopathy Risk Stratification in Black Populations using Deep Learning, Nvidia Hardware grant, for 2 Nvidia RTX A5000 24GB Graphics Cards valued at \$5000, Emmanuel Agu (PI), Jacques Kpodonu (co-PI), Mar 10, 2022
- G25 Stability Health Sandbox Grant, Massachusetts Technology Collaborative (MeHI), PI David Harlan, co-PIs Mike Aspinwall, Emmanuel Agu, Diane Strong, Bengisu Tulu, Soussan Djamasbi, Rodica Neamtu, \$50,000, 2020 Academic year
- G26 Stroke Rehabilitation through Gaming: Proactively Predicting Non-Adherence to Facilitate Just-In-Time Interventions Mark Claypool, Lynn Gauthier, Emmanuel Agu, UML-WPI Collaborative Seed Funding, \$11,486, Summer 2019
- G27 SHB: Medium: Self-Care Management: Patient-Centered Diabetic Wound Care Using Smart Phones, National Science Foundation, CISE Smart Health and Wellbeing program, REU

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Supplement, (NSF IIS-1065298) D. Strong PI and E. Agu, Award amount: \$13,000. Grant dates: 2013-2014

- G28 Emmanuel Agu (PI), \$500 of equipment from Nvidia Corp Inc. (1 Programmable Graphics Card for Desktop Computers), April 2011
- G29 Emmanuel Agu (PI), \$1,250 of equipment from Nokia Inc. (5 C5 Smartphones), March 2011
- G30 Emmanuel Agu (PI), \$8500 of equipment from Google Inc. (20 Motorola Droid 2 Smartphones), May 2010
- G31 Emmanuel Agu, Speedup of Synthetic Aperture Radar Algorithm using GPUs, \$8,000, Raytheon Inc., December 2009
- G32 David Olinger and Emmanuel Agu (co-PIs), Airdrop research projects, Airdrop Technology Team at Natick Soldier Research, Development, and Engineering Center, under Solicitation Number "07-09 Natick BAA", Award amount: \$40,000. Grant dates: January 2008 – 2009.
- G33 Emmanuel Agu (PI) and Robert Lindeman (co-PI), \$5000 of equipment from ATI Inc. (10 Programmable Graphics Cards for Desktop Computers)
- G34 Emmanuel Agu (PI), "Location-Aware Computing," \$6450 research grant from the WPI Research and Development Council (RDC), summer 2005, 2005-2006 academic year
- G35 Emmanuel Agu (PI), "Mobile Adaptive Distributed Graphics Framework (MADGRAF), \$4500 research grant from WPI Research and Development Council (RDC), Summer 2003
- G36 Emmanuel Agu (PI), WPI Computer Science Dept. Research Startup Grant, Award amount: \$25,000. Grant dates: June 2002 – Date

Talks

Invited Talks (External to WPI)

- T1 Presentation to WPI president and visiting CEO and executive of UMass memorial hospital, September 5, 2023
- T2 Presentation on mobile sensing for mental health, to Massachusetts congressman, Senator Markey's staff, November 14, 2022
- T3 Presentation of my research to Strategic Marketing Innovations, Federal Funding Consultants, August 16 and October 14, 2021
- T4 Presentation on mobile sensing for mental health, to Massachusetts congressman, Senator Markey's staff, June 24, 2022
- T5 Presentation of my research at Army Research Lab (ARL), Natick, December 16, 2019
- T6 Presentation to WPI president and visiting researchers from Philips Healthcare, December 12, 2019
- T7 Presentation on my smartphone wound app research to Boston scientific, Nov 29, 2018
- T8 Presentation on research at WPI's Health Delivery Institute (HDI) to visitors from Army Research Labs (ARL), June 29, 2018
- T9 Presentation on my research at Bose, Framingham, MA. June 21, 2018

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- T10 Presentation of my research to Tobias Rodill, Federal Funding Consultant, Dec 6, 2017
- T11 Presentation on research at WPI's Health Delivery Institute (HDI) to visitors from Iceland's Digital Health Solutions, September 17, 2017
- T12 Invited Talk, Mobile Sensing for Healthcare, WPI-UMMS NSF Outreach Workshop, WPI Campus Center, May 20, 2016. Host: Dr Indic Premananda, UMass Medical School.
- T13 Invited talk, Novel Mobile and Social Media Interventions for Preventive Health and Disease Treatment, University of Massachusetts Lowell, Dept. of Computer Science, February 26, 2015. Host: Benyuan Liu
- T14 Invited talk, Mathematics in Computer Graphics and Games, at Mathematics Institute for Secondary Teaching, hosted by Suzanne Weekes and Luca Capogna, 2014, 2015, 2017.
- T15 Invited talk, Mobile and Ubiquitous Health Research at HDI, Tuskegee University Dept. of Computer Science, November 14, 2013. Host: Fan Wu
- T16 Invited talk, Speeding up the Synthetic Aperture Radar (SAR) Code using Graphics Processing Units (GPU), Raytheon Network-centric systems, Marlborough, Massachusetts, Feb 19, 2009.
- T17 Invited talk, Graduate Degrees for Minorities in Engineering and Science Program, Boston University, October 2006
- T18 Invited Talk, WPI MASTER program for minorities to strengthen minority high school student's skills and abilities in math, engineering and science, November 2, 2005
- T19 Invited Talk, WPI MASTER program for minorities to strengthen minority high school student's skills and abilities in math, engineering and science, February 16, 2005

Paper presentations and other Talks

(Legend: WPI undergraduate students are underlined, graduate students are underlined + bold)

- T20 Paper presenter for Joshua Audibert, Elijah Gonzalez, Ryan Orlando, Nicholas Wong, Emmanuel Agu and Mark Claypool, Machine Learning Prediction of Just Dance Enjoyment from Mobile Sensor Data, 2023 IEEE Conference on Games (CoG).
- T21 Paper presenter for Colin Willoughby, Ian Banatoski, Paul Roberts and Emmanuel Agu, Drunk Selfie: Intoxication Detection from Smartphone Selfie Images, submitted to the 1st IEEE International Workshop on Integrated Smart Healthcare (WISH 2019) (co-located with IEEE COMSAC)
- T22 Paper presenter for Andrew McAfee, Jacob Watson, Ben Bianchi, Christina Aiello, Emmanuel Agu, AlcoWear: Detecting Blood Alcohol Levels from Wearables, *IEEE Conference on Ubiquitous Intelligence and Computing (UIC) 2017*, San Francisco, CA
- T23 Paper presenter for Qian He and Emmanuel Agu, Smartphone Usage Contexts and Sensible Patterns as Predictors of Future Sedentary Behaviors, in Proceedings of the IEEE-NIH Special Topics Conference on Healthcare Innovations and Point-of-Care Technologies (HI-POCT '16), Cancun, Mexico, Nov 9-11, 2016
- T24 Paper presenter for Gauri Pulekar and Emmanuel Agu, Autonomously Sensing Loneliness and Its Interactions with Personality Traits using Smartphones, in Proceedings of the IEEE-NIH Special

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Topics Conference on Healthcare Innovations and Point-of-Care Technologies (HI-POCT '16),
Cancun, Mexico, Nov 9-11, 2016.

- T25 Paper presenter for **Christina Aiello** and Emmanuel Agu, Investigating Postural Sway Features, Normalization and Personalization in Detecting Blood Alcohol Levels of Smartphone Users, in Proc Wireless Health Conference 2016
- T26 Paper presenter for Emmanuel Agu and Mark Claypool, Cypress: A Cyber-Physical Recommender System to Discover Smartphone Exergame Enjoyment, in Proc Int'l Workshop on Engendering Health with RecSys, co-located with ACM RecSys 2016, Boston MA.
- T27 Paper presenter for **Zach Arnold**, **Danielle LaRose**, Emmanuel Agu, A Factorial Experiment to Investigate Naturalistic Factors Affecting Smartphone Gait Analysis, in Proc 17th Int'l Conference on e-Health Networking, Applications and Services (Healthcom) 2015
- T28 Paper presenter for **Zach Arnold**, **Danielle LaRose**, Emmanuel Agu, Smartphone Inference of Alcohol Consumption Levels from Gait, in Proc IEEE Conf. on Healthcare Informatics 2015.
- T29 Paper presenter for **Clifford Lindsay** and Emmanuel Agu, Previsualization using a Computational Photography Camera, in Proc. Int'l Symposium on Visual Computing (ISVC) 2014, Las Vegas, Nevada
- T30 Paper presenter for paper **Clifford Lindsay** and Emmanuel Agu, Automatic Multi-Light White Balance using Illumination Gradients and Color Space Projection, in Proc. Int'l Symposium on Visual Computing (ISVC) 2014, Las Vegas, Nevada
- T31 Paper presenter for **Wei Wang**, **Zhilu Chen**, **Baoyuan Xing**, **Xiaochen Huang**, **Shengwen Han** and Emmanuel Agu, A Smartphone-based Digital Hearing Aid to Mitigate Hearing Loss at Specific Frequencies in Proc Workshop on Mobile Medical Applications (MMA) 2014, co-located with ACM Sensys 2014, Memphis Tennessee
- T32 Paper presenter for **Qian He**, Emmanuel Agu, Diane Strong and Bengisu Tulu, RecFit: A Context-Aware System for Recommending Physical Activities, in Proc Workshop on Mobile Medical Applications (MMA) 2014, co-located with ACM Sensys 2014, Memphis Tennessee
- T33 Paper presenter for paper Emmanuel Agu, Peder C. Pedersen, Diane Strong, Tulu Bengisu, **Qian He**, **Lei Wang**, **Yejin Li**, The smartphone as a Medical Device: Assessing Enablers, Benefits and Challenges, in Proc Workshop on Design Challenges in Mobile Medical Device Systems (DC-MMDS) (in conjunction with IEEE SECON 2013)
- T34 Paper presenter for paper **Andrew Zafft** and Emmanuel Agu, Malicious WiFi Networks: A First Look, in Proceedings, Workshop on Security in Communications Networks (SICK), co-located with IEEE Conf. on Local Computer Networks (LCN), Clearwater, Florida, Oct 2012
- T35 Paper presentation, **Kutty Banerjee**, and Emmanuel Agu " Estimating Mobile Memory Requirements and Rendering Time for Remote Execution of the Graphics Pipeline ", in Eurographics, Dublin, Ireland, August 2005
- T36 Paper presentation for paper, **Kutty Banerjee**, and Emmanuel Agu, PowerSpy: Fine-Grained Software Energy Profiling for Mobile Devices", in IEEE WirelessCom Conference, June 2005
- T37 Paper presentation for paper **Kutty Banerjee** and Emmanuel Agu, Remote Execution for 3D Graphics on Mobile Devices ", in IEEE WirelessCom Conference, June 2005

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- T38 Paper presentation, Emmanuel Agu, **Kutty Banerjee**, **Shirish Nilekar**, **Oleg Rekutin**, **Diane Kramer** " A Middleware Architecture for Mobile 3D Graphics", in MDC Workshop 2005 (co-located with ICDCS), Columbus, Ohio, June 2005
- T39 Paper presenter for paper, Ali Taheri, Arvinder Singh and Emmanuel Agu, Location Fingerprinting on Infrastructure 802.11 Wireless Local Area Networks (WLANs) using Locus, talk at Fourth Int'l IEEE Workshop on Wireless Local Networks, (in conjunction with IEEE LCN 2004), Tampa, Florida, November 2004
- T40 Paper presentation for paper, Emmanuel Agu and Francis S. Hill, A Simple Method for Ray Tracing Diffraction, Computer Graphics and Geometric Modeling (CGGM) Workshop, Montreal, Canada, May 2003
- T41 Paper presentation for paper, Emmanuel Agu and Francis S. Hill, Diffraction Shading Models for Iridescent Surfaces, paper presentation in IASTED VIIP Conference, 2002
- T42 Paper presentation for paper, Emmanuel Agu and Aura Ganz, A Resource Reservation Protocol for Wireless Local Area Networks, paper presentation in Massachusetts Telecommunications Conference (MTC) 1996

Invited Talks Internal to WPI

- T43 Invited Talk, Biomedical AI for Ubiquitous Healthcare, WPI Biomedical Engineering Department Seminar, November 4, 2024
- T44 Panelist on the Tenure process for underrepresented minorities at WPI, Africana Studies Program, February 7, 2024
- T45 Guest Speaker, Overview of my healthcare research, to visitors from Kwame Nkrumah University of Science and Technology, October 20, 2023.
- T46 Panelist for Critical Conversations: AI and your health, part of Arts and Science week 2023, September 19, 2023.
- T47 Presentation to WPI new faculty on advice to secure funding, organized by WPI's Research Solutions Institute (RSI), May 11, 2023
- T48 Presentation to WPI new faculty on advice to secure NIH funding, organized by WPI's Research Solutions Institute (RSI), January 17, 2023
- T49 Presentation on my research and advice on funding to WPI new faculty, August 18, 2019
- T50 WPI Computer Science Colloquium, An Excursion in Mobile Health Sensing, April 29, 2016. Host: Krishna Venkatasubramanian.
- T51 Speaker, WPI CS Applied Logic and Security (ALAS) Research Group, Security Issues in the Sugar Diabetes App, April 2013
- T52 Speaker, Computer Science Colloquium, Mobile and Ubiquitous Health Research at HDI, April 5, 2013. Host Craig Wills
- T53 Guest Lecturer, What's hot in Computer Graphics, Technical Game Development (IMGD 4000) Course, WPI, 2008, 2010, 2011, 2012 and 2015.
- T54 Guest Lecturer, Graphics Applications of Linear Algebra, Center for Industrial Mathematics and Statistics, WPI, Summer, 2007

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- T55 Speaker, Progress Report on MADGRAF, WPI CS Image Science Research Group (ISRG) WPI, Nov. 2004
- T56 Speaker, Wireless LAN location sensing, WPI CS Performance Evaluation of Distributed Systems (PEDS) Research Group, March 15, 2004
- T57 Speaker, Photorealism in computer graphics, WPI CS Image Science Research Group (ISRG), November 2003
- T58 Speaker, Wireless network, and sensor protocol issues, WPI CS Performance Evaluation of Distributed Systems (PEDS) research group, Oct. 2003
- T59 Speaker, Mobile 3D graphics, WPI CS WPI CS Performance Evaluation of Distributed Systems (PEDS) research group, WPI, April 2003
- T60 Speaker, Mobile 3D graphics, WPI CS Image Science Research Group (ISRG), March 2003
- T61 Guest Lecture, Internet Business Design & Development Class, SOM 597G, School of Management, University of Massachusetts-Amherst, Spring 1999.
- T62 Teaching Assistant and Guest Lecture, Wireless Local Area Networks Class, ECE 597A, Electrical and Computer Engineering Dept., Univ. of Massachusetts-Amherst, Fall 1996.

Media Coverage of my Work

- MC1 A New Prescription for Pain: AI and Mindfulness, March 12, 2024. A New Prescription for Pain: AI and Mindfulness. <https://www.wpi.edu/news/new-prescription-pain-ai-and-mindfulness>
- MC2 WPI researcher, UMass Chan Medical School team up to develop wound app that could help save lives, March 18, 2023. <https://www.telegram.com/story/news/technology/2023/03/18/a-hospital-and-wpi-in-worcester-are-developing-wound-app-to-save-lives/70009884007/>
- MC3 WPI researchers are developing smartphone apps to detect wound infections, Spectrum News 1, March 2, 2023. <https://spectrumnews1.com/ma/worcester/news/2023/03/02/wpi-researchers-developing-app-to-detect-wound-infections-#>
- MC4 WPI researcher receives \$2.4M grant for infection detection app, Worcester Business Journal, March 1, 2023. <https://www.wbjournal.com/article/wpi-researcher-receives-24m-grant-for-infection-detection-app>
- MC5 WPI Researcher's team receives +2.4 million to develop smartphone app to detect wound infections, WPI Press release, February 28, 2023. <https://www.wpi.edu/news/wpi-researchers-team-receives-24-million-develop-smartphone-app-detect-wound-infections>
- MC6 Strong Scientific Theory + AI-centered Collaborations = Real Progress for People's Lives: Soboyejo and Agu highlight WPI's interdisciplinary, problem-solving approach at Nobel Symposium, <https://www.wpi.edu/news/strong-scientific-theory-ai-centered-collaborations-real-progress-people-s-lives>
- MC7 Your Smartphone Can Tell If You're Drunk-Walking, Wired, September 7, 2020, <https://www.wired.com/story/your-smartphone-can-tell-if-youre-drunk-walking/>
- MC8 Worcester Polytechnic Institute and UMass Lowell team up to seed growth of combined research, <https://www.wpi.edu/news/worcester-polytechnic-institute-and-umass-lowell-team-seed-growth-combined-research>, August 28, 2019

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MC9 Physician in your Pocket: Emmanuel Agu, WPI Journal, September 28, 2018

DARPA Warfighter Analytics for Smartphone Healthcare (WASH) project:

MC10 TV interview with Channel 3, Worcester about WASH grant, September 25, 2018

MC11 Radio interview on WBZ Radio Boston about WASH grant, September 25, 2018

MC12 Personalized Healthcare on the Go, Clinical OMICS, September/October issue, Sept. 25, 2018.

MC13 WPI Granted \$3M to develop Soldier Brain Injury Smartphone app, Worcester Business Journal, Sept 25, 2018. <http://www.wbjournal.com/article/20180925/NEWS01/180929975/wpi-granted-3m-to-develop-soldier-brain-injury-smartphone-app>.

MC14 Worcester Polytechnic Institute Secures \$2.8 Million to Develop a Smartphone App to Help Assess the Health of Soldiers, Business Insider, Sept 24, 2018. <https://markets.businessinsider.com/news/stocks/worcester-polytechnic-institute-secures-2-8-million-to-develop-a-smartphone-app-to-help-assess-the-health-of-soldiers-1027559959>.

MC15 WPI Secures \$2.8 Million to Develop a Smartphone App to Help Assess the Health of Soldiers, WPI News, Sept 24, 2018. <https://www.wpi.edu/news/wpi-secures-28-million-develop-smartphone-app-help-assess-health-soldiers>

MC16 Wall & Main: WPI professor's research wins \$2.8M grant for app that tracks warriors' health, Worcester Telegram and Gazette, May 7, 2018. <http://www.telegram.com/news/20180507/wall-amp-main-wpi-professors-research-wins-28m-grant-for-app-that-tracks-warriors-health>

MC17 **Alcogait Smartphone Intoxication Sensing from Gait project:** Over 120 media articles including Boston Globe, 2 NPR radio articles, BBC Radio, Worcester Telegram and Gazette, Boston TV channels 2,3,4 and 5 and 7.

MC18 Smartphone Intelligence, Diversity in Action, September/October 2018

MC19 WPI reaches new research funding milestone, <https://www.wpi.edu/news/wpi-reaches-new-research-funding-milestone>, Sept. 18, 2018.

MC20 WPI celebrates record year for student patent filings, Licences, Worcester Telegram & Gazette, May 7, 2018. <http://www.telegram.com/news/20180507/wpi-celebrates-record-year-for-student-patent-filings-licenses>

MC21 Too High, Drunk or Sleepy to Drive? One day your phone could know, Wired Magazine, May 1, 2018, <https://www.wired.com/story/portable-field-sobriety-tests/>

MC22 Smartphones speed recovery of surgical wounds, Financial Times, March 5, 2018. <https://www.ft.com/content/251044be-05f6-11e8-9e12-af73e8db3c71>

MC23 Radio interview about smartphone wound app, WBZ radio, February 23, 2018

MC24 Researchers creating app to track, analyze dangerous chronic wounds, WPI News, February 21, 2018. <https://www.wpi.edu/news/researchers-creating-app-track-analyze-dangerous-chronic-wounds>

MC25 WPI granted \$1.6M to develop wound-care app, Worcester Business Journal, February 21, 2018. <http://www.wbjournal.com/article/20180221/HEALTH/180229986/wpi-granted-16m-to-develop-wound-care-app>

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- MC26 Building the \$1.6M wound-monitoring smartphone app, Healthcare Analytics News, February 23, 2018. <http://www.hcanews.com/news/building-the-16m-woundmonitoring-smartphone-app>
- MC27 WPI Professor Making Progress on Health Apps, Worcester Telegram and Gazette, November 20, 2017. <http://www.telegram.com/news/20171120/peter-s-cohan-wpi-professor-making-progress-on-health-apps>
- MC28 Detox? There's an App for that (on the way), Lisa Chedekel, Boston University. February 6, 2017. <http://www.bu.edu/research/articles/detox-support-app/>
- MC29 Data Science REU, <https://www.wpi.edu/news/data-science-reu>, July 26, 2017
- MC30 PhD scholars from Africa advance research at WPI, <https://www.wpi.edu/news/phd-scholars-africa-advance-research-wpi>, Nov 16, 2017.
- MC31 New App in Development to help Patients Wean off Buprenorphine, Livia Areas-Holmblad, AdditionNow.com website. <https://www.addictionnow.com/2016/12/13/new-app-in-development-to-help-patients-wean-off-buprenorphine/>. Accessed Dec 15, 2016
- MC32 Smartphone App for Beating Opioid Addiction: NIH Funds Development of Detox Support App, WPI Daily Herd, Dec 12, 2016. <https://www.wpi.edu/news/smartphone-app-beating-opioid-addiction>. Accessed December 15, 2016.
- MC33 College Town: WPI-Developed App Aids Diabetics, by Bonnie Russell, Worcester Telegram and Gazette, April 18, 2015. <http://www.telegram.com/article/20150418/NEWS/304189721>. Accessed December 15, 2016.
- MC34 Trial Testing App to Manage Diabetes, Foot Ulcers, Science & Enterprise, April 14, 2015. <http://sciencebusiness.technewslit.com/?p=26838>, Accessed December 15, 2016.
- MC35 Pilot Clinical Study to test "Sugar" Diabetes App, MedicalXpress.com website, April 14, 2015. <http://medicalxpress.com/news/2015-04-clinical-sugar-diabetes-app.html>. Accessed December 15, 2016
- MC36 Pilot Clinical Study at UMMS to test "Sugar" Diabetes App, UMass Medical News, April 13, 2015. <http://www.umassmed.edu/news/news-archives/2015/04/pilot-clinical-study-at-umms-to-test-sugar-diabetes-app/> Accessed. Dec 15, 2016
- MC37 Diabetes Management App to Begin Pilot at UMass Medical School, MobiHealthNews, April 13, 2015. <http://www.mobihealthnews.com/42300/diabetes-management-app-to-begin-pilot-at-umass-medical-school>. Accessed December 15, 2016
- MC38 "Sugar," A WPI-Built Diabetes App, Enters Clinical Testing, WPI News, April 13, 2015. <https://www.wpi.edu/news/sugapp>. Accessed December 15, 2016
- MC39 WPI developing smartphone app to address stress eating, by Megan Bard, UMass Medical School Communications and Michael Cohen, WPI Communications, UMass medical news. <http://www.umassmed.edu/news/news-archives/2015/01/umass-medical-school-wpi-developing-smartphone-app-to-address-stress-eating/>. Accessed February 2, 2015
- MC40 UMass Medical School and WPI Share \$2 million NIH Grant to Develop Stress Eating App, WPI News, February 2, 2015. <https://www.wpi.edu/news/tuluapp>. Accessed December 15, 2016.
- MC41 Worcester Polytechnic Institute Student Creates a Top 10 App for the Pebble Smart Watch, Robotics Tomorrow, April 14, 2014.

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- <http://www.roboticstomorrow.com/news/2014/04/14/worcester-polytechnic-institute-student-creates-a-top-10-app-for-the-pebble-smart-watch/3834/>. Accessed Dec. 15, 2016.
- MC42 WPI Student Creates a Top 10 App for Pebble Smart Watch, WPI News, April 14, 2014. <https://www.wpi.edu/news/pebble>. Accessed December 15, 2016
- MC43 WPI Professor Developing Health Care Apps, by Peter Cohan, Worcester Telegram & Gazette, June 9, 2013. <http://www.telegram.com/article/20130609/COLUMN70/306099990>. Accessed December 15, 2016.
- MC44 Worcester Polytechnic Institute to Develop Smartphone Application for Patients with Advanced Diabetes, Foot Ulcers, Drug Store News, December 21, 2011. <http://www.drugstorenews.com/article/worcester-polytechnic-institute-develop-smartphone-application-patients-advanced-diabetes-fo>. Accessed December 15, 2016
- MC45 WPI Awarded \$1.2 Million to Develop App for Advanced Diabetes and Wound Care, oandp.com, December 14, 2011. http://www.oandp.com/articles/NEWS_2011-12-14_01.asp. Accessed December 15, 2016.
- MC46 Diabetes Management? Researchers Creating an App for that, UMass Medical School News, December 14, 2011. <https://www.umassmed.edu/es/news/news-archives/2011/12/diabetes-management-researchers-creating-an-app-for-that/>. Accessed December 15, 2016
- MC47 WPI team gets \$1.2 million from NSF for Diabetes Care app, Boston Business Journal, December 12, 2011. <http://www.bizjournals.com/boston/blog/mass-high-tech/2011/12/wpi-team-gets-12m-from-nsf-for-diabetes-care.html>. Accessed December 15, 2016
- MC48 WPI Team Awarded \$1.2 Million to Develop Smart Phone Application for Advanced Diabetes and Wound Care: Project will link a smart phone, glucose meter, and scale to help people manage their diabetes, WPI News, December 12, 2011. <https://www.wpi.edu/news/2011diab>. Accessed December 15, 2016
- MC49 WPI to develop smart phone app for foot ulcers, advanced diabetes, News-Medical-net website, December 13, 2011. <http://www.news-medical.net/news/20111213/WPI-to-develop-smart-phone-app-for-foot-ulcers-advanced-diabetes.aspx>. Accessed Dec 15, 2011
- MC50 Four WPI Computer Science Faculty Members Receive Federal Education Award, June 6, 2006. <http://www.prnewswire.com/news-releases/four-wpi-computer-science-faculty-members-receive-federal-education-award-55950502.html>
- MC51 **Shoploco Internet Startup:** Articles in Boston Globe and Daily Hampshire Gazette, Northampton, MA (1999)

Professional Society Memberships

- PM1 Member of ACM SIGGRAPH Computer Graphics Society, Boston,
- PM2 Member, Institute of Electrical and Electronics Engineering (IEEE)
- PM3 Member, Association of Computing Machinery (ACM)

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TEACHING

Summary Table of Classes Taught each Year at WPI

Academic Year	WPI Computer Science classes taught (3 class teaching load) (class, semester/term, undergraduate classes in italics)			Other classes taught (for CPE)
2023-24	CS 528 (Fall)	Course release	Course release	Introduction to AI
2022-23	CS 528 (Spring)	Course release	Course release	
2019-20	CS 528 (Fall)	CS 543 (Fall)	Course release	
2018-19	CS 528 (Fall)	CS 543 (Fall)	Course release	
2017-18	CS 528 (Fall)	CS 543 (Spring)	CS 4518 (C)	
2016-17	<i>4731 (B)</i>	<i>4518 (C)</i>	543 (Spring)	
2015-16	Sabbatical (Fall)	<i>403X (D)</i>	528 (Spring)	
2014-15	<i>4731 (A)</i>	<i>403X (D)</i>	528 (Spring)	
2013-14	543 (Fall)	545(Spring)	<i>4731 (D)</i>	
2012-13	543 (Fall)	<i>4731 (C)</i>	525M (Spring)	
2011-12	543 (Fall)	<i>4731 (B)</i>	563 (Spring)	525G (Fall)
2010-11	543 (Fall)	<i>4731 (C)</i>	525M (Spring)	513/ECE 506
2009-10	<i>4731 (D)</i>	513/ECE 506 (Spring)	563 (Spring)	
2008-09	Sabbatical (Full year)			
2007-08	543 (Fall)	513/ECE 506 (Spring)	<i>4731 (B)</i>	
2006-07	543 (Fall)	<i>4514 (C)</i>	563 (Spring)	
2005-06	543 (Fall)	<i>4514 (C)</i>	525M (Spring)	
2004-05	<i>4731 (A)</i>	<i>4514 (C)</i>	563 (Spring)	
2003-04	543 (Fall)	<i>4731 (A)</i>	525M (Spring)	
2002-03	<i>4731 (A)</i>	<i>4514 (C)</i>	563 (Spring)	

Student Evaluations of Classes Taught at WPI (Question 2)

Classes with * indicate a pilot use of the experimental IDEAS course evaluation system.

Graduate Courses

- CS 528, Mobile and Ubiquitous Computing, WPI CS Dept.,
 - Fall 2023 (32 students, 3.8 average approval rating)
 - Spring 2023 (28 students, 3.5/5 average approval rating)
 - Fall 2020 (17 students, 3.7/5 average approval rating)
 - Fall 2019 (29 students, 4.2/5 average approval rating)
 - Fall 2018 (26 students, 4.6/5 average approval rating)
 - Fall 2017 (27 students, 4.39/5 average approval rating)
 - Spring 2016 (41 students, 3.78/5 average approval rating)
 - Spring 2015 (23 students, 4.33/5 average approval rating)

- CS 525M, Mobile and Ubiquitous Computing, Graduate Special Topics, WPI CS Dept.,
 - Spring 2013 (21 students, 4.13/5 average approval rating)
 - Spring 2011 (19 students, 4.25/5 average approval rating)

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- Spring 2006 (15 students, 4.21/5 average approval rating)
- Spring 2004 (16 students, 97% approval rating)
- CS 543, Computer Graphics, WPI Computer Science Dept.
 - Fall 2019 (8 students, 4.0/5 average approval rating)
 - Spring 2018 (22 students, 3.92/5 average approval rating)
 - Spring 2017 (29 students, 4.52/5 average approval rating)
 - Fall 2013 (21 students, 4.19/5 average approval rating)
 - Fall 2012, (21 students, 4.29/5 average approval rating)
 - Fall 2011, (7 students, 4.21/5 average approval rating)
 - Fall 2010, (12 students, 4.25/5 average approval rating)
 - Fall 2007, (12 students, 4.45/5 average, 100% approval rating)
 - Fall 2006, (14 students, 4.27/5 approval rating)
 - Fall 2005, (13 students, 3.8/5 average rating)
 - Fall 2003, (21 students, 94% approval)
- CS 563, Advanced Topics in Computer Graphics, WPI CS Department
 - (Focus on real-time rendering), spring 2012, (4 students, 4.28 avg approval rating)
 - (Focus on photorealistic rendering), Spring 2010, (7 students, 4.17/5)
 - (Focus on photorealistic rendering), Spring 2007, (13 students, 4.25/5)
 - (Focus on real-time rendering), Spring 2005 (12 students, *)
 - (Focus: photorealistic rendering), Spring 2003, (8 students, 100% approval rating)
- CS 513/ECE 506, Computer Networks, WPI Computer Science Dept.
 - Fall Semester 2010 at General Dynamics (9 students, 4.25 average approval rating)
 - Spring Semester, 2010 (38 students, 4.27/5 (CS) 3.91/5 (ECE) avg approval rating)
 - Spring Semester, 2008 (19 students, 4.3/5 approval rating)
- CS 525G, Special Topics Graphics Processing Units (GPGPU)
 - Fall Semester 2011 at BAE Systems (18 students, 4.21 average approval rating)
- CS/ECE 545, Digital Image Processing
 - Spring Semester 2014, (39 Students, 4.13/5 (CS), 4.00/5.0 (ECE) approval rating)

Undergraduate Courses

- CS 4518/403X, Mobile and Ubiquitous Computing, WPI CS Dept.,
 - C term, 2018 (42 students, 4.04/5 average approval rating)
 - C term, 2017 (23 students, 3.96/5 average approval rating)
 - D term, 2016 (45 students, 3.04/5 average approval rating)
 - D term, 2015 (45 students, 3.47/5 average approval rating)
- CS 4731, Computer Graphics, WPI Computer Science Dept.
 - B Term, 2016 (26 students, 3.65 average approval rating)
 - A Term, 2014 (24 students, 3.06/5 average approval rating)
 - D Term, 2014 (57 students, 3.73/5 average approval rating)
 - C Term, 2013 (45 students, 3.55/5 average approval rating)
 - B Term, 2011 (31 students, 4.13/5 average approval rating)

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- C Term, 2011 (51 students, 4.07/5 average approval rating)
- D Term, 2010 (60 students, 3.7/5 average approval rating)
- B Term, 2007 (36 students, 4.31/5 average approval rating)
- A Term, 2004 (70 students, *)
- A Term, 2003 (75 students, *)
- A Term, 2002 (55 students, 87% approval rating)

- CS 4514, Computer Networks, WPI Computer Science Dept.
 - C Term, 2007 (26 students, 4.43/5 approval rating)
 - C Term, 2006 (34 students, 3.75/5 average rating)
 - C Term, 2005 (49 students, *)
 - C Term, 2003 (50 students, 93% approval rating)

- HRTA 200, Hospitality Computer Applications, Univ. of Massachusetts, HRTA Dept.
 - Spring 2002 (4 sections, 72 students, 100% approval rating)

Awards/Honors Related to Teaching

- A1 Nominee, outstanding academic advisor of the year, 2018-19
- A2 Advisor, Fact or Fiction, by Charles Lovering, Anqi Lu, Cuong Nguyen, Huyen Nguyen, Honorable Mention for Provost's Award for best MQP in Comp Science Dept., 2017-18, top 10 out of 49 MQPs
- A3 Advisor, Intoxigait Deep Learning by Nicholas Cheung, Sam Huang, Joseph Bremner and Quoc Ho Lam, Honorable Mention for Provost's Award for best MQP in Comp Science Dept., 2017-18, top 10 out of 49 MQPs
- A4 Advisor, Depression Sensing by Ada Dogrucu, Aleksa Perucic, Damon Ball, Anabella Isaro, Honorable Mention for Provost's Award for best MQP in Comp Science Dept., 2017-18, top 10 out of 49 MQPs (co-advised with Elke Rundensteiner)
- A5 Advisor, Detruncation of Attenuation Maps using Neural Networks by Akshay Thejaswi, Aditya Nivarthi and Daniel Beckwith, Honorable Mention for Provost's Award for best MQP in Comp Science Dept., 2016-17, top 3 out of 46 MQPs, (co-advised with Clifford Lindsay)
- A6 Advisor WPI Graduate Research Innovation Exchange (GRIE), Poster Competition, Arts and Science 2017, Finalist MS Level by Nichole Etienne
- A7 Advisor, WPI Graduate Research Innovation Exchange (GRIE), Poster Competition, Arts and Science 2016, Winner MS Level by Christina Aiello
- A8 Advisor WPI Graduate Research Innovation Exchange (GRIE), Poster Competition, Arts and Science 2016, Finalist MS Level by Gauri Pulekar
- A9 Advisor WPI Graduate Research Innovation Exchange (GRIE), Poster Competition, Arts and Science 2013, Finalist MS Level by William Disanto
- A10 Nominee, Moruzzi Young Faculty Award for Innovation in Undergraduate Education, 2006
- A11 Advisor, Smartphone Gait Inference MQP by Zachary Arnold and Danielle Larose, Provost's MQP award for the best MQP in the WPI CS department for the 2014-2015 academic session

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A12 Advisor, WPI Grad 2006 poster competition, Multiresolution for Mobile Graphics by Fan Wu.
Poster won 2nd place PhD level, campus wide.

A13 Advisor, Wireless LAN Location Sensing MQP by Ali Taheri and Arvinder Singh, Provost's MQP
award for the best MQP in the WPI CS department for the 2003-2004 academic session

Teaching Innovations at WPI

New classes introduced (4)

- Designed and taught a new 2-day course in Introduction to Artificial Intelligence (AI) at the Army Research Laboratories in Natick, Massachusetts, October 2023
- Proposed and received approval for a new experimental undergraduate course in Mobile and Ubiquitous computing (CS 403X), D Term 2015. The course was converted to CS 4518, a Cat 1 class in Fall 2015.
- Proposed and received approval for a new graduate course in Mobile and Ubiquitous computing (CS 528), Spring 2015. Introduced this advanced class earlier as Mobile and Pervasive computing (CS 525M)
- Proposed, designed, and taught a new graduate course in General Purpose Computing using Graphics Processing Units at BAE Systems (CS 525G), fall 2011.

Classes revamped (3)

- Revamped the CS 528 mobile computing class to include new topics such as Internet of Things (IoT), edge computing and also to teach and have projects in Kotlin, the new Android programming language.
- Developed Modules (EMLs) to develop the entrepreneurial mindset in graduate and undergraduate Mobile & Ubiquitous Computing classes (CS 403X & CS 528), funded by KEEN grant.
- Revamped introductory undergraduate and graduate computer graphics (CS 4731 and CS 543) classes to include new tested methods for teaching computer graphics.
- Revamped the advanced graduate computer graphics (CS 563) class to include cutting edge topics such as Graphics Processing Units (GPUs), Spherical Harmonics, Image-based rendering, and Bi-directional Reflectance Functions (BRDFs).

Visiting Scholars

1. Xixuan Zhao, PhD candidate, Forestry Engineering, Beijing Forestry University, Nov. 2018 – Oct. 2019
2. Apratim Mukherjee Undergraduate, Computer Science and Engineering, Manipal Institute of Technology, summer 2019
3. Dr Shu Shen, School of Computer Science Nanjing University of Telecommunications and Post, Nov 2019 – October 2020

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Research Staff

1. Deepak Kumar, PhD, Nov. 2023 – Date
2. David Clement, PhD, Aug 2024 – Date

Graduate Students

PhD Dissertations Advised and Co-Advised (Completed)

- P1 Abdulsalam Almadani, Neural Networks Models for Assessing Cardiac Health, WPI Data Science Program, January 2026
- P2 Kavin Chandrasekaran, Deep Learning Approaches for Passive, Multi-Scale Activity Recognition for Healthcare, WPI Data Science Program (co-advised with Elke Rundensteiner), July 2025.
- P3 Wen Ge, Deep Multi-Modal Context-Aware Human Activity Recognition, WPI Computer Science Dept, December 2024.
- P4 Atifa Sarwar, WPI Computer Science Department, Machine Learning Models for Passive Pre-symptomatic Detection of Covid-19 from Smart Wearable Data, July 2024.
- P5 Apiwat Dittthapron, WPI Computer Science Department, (Co-advised with Prof Adam Lammert), Mobile Paralinguistic Health Assessment from Speech: Energy-Efficient and Privacy-Preserving Neural Network Models, April 2024
- P6 Zhouan Su, Machine Learning for RF Cloud in Proximity Detection and Intelligent Spectrum Management: An Empirical Study, WPI Electrical and Computer Engineering Department, (co-advised with Professor Kaveh Pahlavan), February 2024.
- P7 Walter Gerych, Leveraging Mislabeled Datasets, and Improving Imperfect Pre-Trained Models, WPI Data Science Program (co-advised with Elke Rundensteiner), October 2023
- P8 Ziyang Liu, Neural Networks Models for Multi-Attribute Assessment of Fine-Grained Wound Images, WPI Computer Science Dept, April 2023
- P9 Abdulaziz Alajaji, Robust Representation Learning for Context Recognition on Weakly Supervised Mobile Sensed Data with Covariate Shifts, WPI Data Science Program (co-advised with Elke Rundensteiner), April 2023.
- P10 David Clement, Breast Cancer Detection using Deep Learning, Computer Science Department, African University of Science and Technology (AUST), (co-advised with Prof Wole Soboyejo), January 2023.
- P11 Hamza Abujrida, Machine Learning Models for Parkinson's Disease Gait Assessment and Medication Adherence from Smartphone Sensor Data, WPI ECE Department, (co-advised with Kaveh Pahlavan, WPI ECE Dept.), December 2022.
- P12 Hamid Mansoor, Visual Analytics for Smartphone Health Phenotyping, WPI Computer Science Dept, (co-advised with Elke Rundensteiner). August 2022.
- P13 Qian He, WPI Computer Science Dept., Advisor, Computational Models for Predicting Sedentary Behaviors, May 2017

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- P14 Clifford Lindsay, Programmable Image-Based Light Capture for Previsualization. WPI Computer Science Dept., Advisor, Completed April 2011.
- P15 Fan Wu, Ubiquitous Scalable Graphics: An End-to-End Framework using Wavelets, WPI Computer Science Dept., Advisor. Completed November 2008

PhD Dissertations Advised and Co-Advised (In Progress)

- P16 Ibrahim Aljadani, WPI Data Science Program, Fall, 2024 – Date.
- P17 Samuel Chibuoyim Uche, WPI Computer Science Program, Spring 2023 - Date
- P18 Reza Saadati Fard, WPI Computer Science Dept., May 2023 – Date.
- P19 Palawat Busaranuvong, Multimodal Large Language Models for Automatic Wound Infection Assessment from Images: Classification, Captioning and Reasoning, WPI Data Science Program, July 2023 - Date
- P20 Shefalika Gautam, WPI Data Science Program, Sept. 2022 – Date. Master's thesis proposal: A Visible and infrared image fusion (VIF) Neural Networks Architecture for enhanced object classification in adverse conditions using a Correlation-Driven feature Decomposition Fusion (CDDFuse) network and Cross-Shaped Window for self-attention (CSwin) transformer.
- P21 Jiaqi Ji, WPI Computer Science Dept., master's thesis: A Deep Semantic Segmentation Framework for Digitizing Paper Electrocardiograms with Data Augmentation using a Diffusion Model, Completed May 2023.
- P22 Ali Benamara, PhD student (part time), WPI Computer Science Dept., Advisor, June 2007 - Feb 2011, Jan 2021 -Date.
- P23 Luke Buquicchio, WPI Data Science Program (co-advised with Elke Rundensteiner), June 2018 – Date. PhD Proposal: Deep Learning for Class Discovery, July 2023.
- P24 Wafaa Almuhammadi, WPI Computer Science Program, August 2018 – Date
- P25 Ruojun Li, WPI Electrical and Engineering Dept, June 2018 – Date. Area Exam: Smartphone-Based Gait Analyses to Detect Intoxication, August 2021

Master's Theses advised and Co-Advised

- T1 Dinesh Kodwani, CovidRhythmTab: COVID-19 Infection Detection Framework from Wearable Sensor Data using Tabular Neural Networks to Analyze BioBehavioral Rhythms, WPI Computer Science program (in progress)
- T2 Aires Miguens, HyperSpeech - Attention-Based Feature Tokenization with MLP Ensemble for Hypertension Detection from Speech Signals, WPI Data Science program (in progress)
- T3 Shefalika Gautam, A Visible and infrared image fusion (VIF) Neural Networks Architecture for enhanced object classification in adverse conditions using a Correlation-Driven feature Decomposition Fusion (CDDFuse) network and Cross-Shaped Window for self-attention (CSwin) transformer, WPI Data Science program, August 2025
- T4 Abigail Albuquerque, Detecting Intoxication from Speech using Representations Learned from Self-supervised Pre-Training, master's thesis, WPI Computer Science Dept., December 2024

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- T5 Samuel Chibuoyim Uche, DUI Detection from Gait using a Multichannel 1DCNN-Attention-BiLSTM Framework, WPI Computer Science Dept., December 2024
- T6 Grant Perkins, Pressure Ulcer stage classification from images using neural networks, WPI Computer Science Dept., December 2023.
- T7 Reza Saadati Fard, Multimodal Neural Networks for Chronic Wound Decision Support, master's thesis, WPI Computer Science Dept., May 2023 – Date.
- T8 Jiaqi Ji, WPI Computer Science Dept., master's thesis: A Deep Semantic Segmentation Framework for Digitizing Paper Electrocardiograms with Data Augmentation using a Diffusion Model, May 2023.
- T9 Oleksandr Semenov, Machine Learning Estimation of COVID-19 Social Distance Using Smartphone Sensor Data, WPI Electrical and Computer Engineering Dept. Sept. 2021 (yielded papers J23, C26)
- T10 Apiwat Dittthapron, Speech-based Traumatic Brain Injury (TBI) assessment using deep learning methods with limited labeled data, WPI Computer Science Dept. co-advisor Adam Lammert (Biomedical Engineering Dept.), May 2021 (yielded paper C25)
- T11 Srinarayan Srikanthan, Advance Flu Symptom prediction using LSTM shared memory based multitask learning with deep clustering, WPI Comp. Science Dept., May 2021 (yielded paper C27)
- T12 Shreesha Narasimha Murthy, Passive Diagnosis of COVID-19 using Voice and Respiratory data, WPI Computer Science Dept., May 2021 (yielded paper C29)
- T13 Florina Asani, TBI sensing in smartphone users using a sequence-to-sequence attention-based temporal model for semi-supervised learning with co-training, WPI Computer Science Dept., May 2021 (yielded paper J18)
- T14 Bhoomi Patel, Predicting TBI by using Smartphone-sensed mobility patterns, gait, and balance, WPI Computer Science Dept., May 2021 (yielded paper C22)
- T15 Songlin Hou, Learning-Based Bidirectional Illumination Enhancement Network High Dynamic Range (HDR) Wound Image Analysis, WPI Computer Science Dept., May 2021 (yielded paper C31)
- T16 Raghav Nagpal, Rectification of Perspective and Scale Distortion in Wound Images and Integrated Evaluation of the SmartWAnDS System, WPI Robotics Engineering Program, completed April 2021
- T17 Akshay Iyer, Characterizing the Effects of Adverse Lighting on Semantic Segmentation of Wound Images and Mitigation using a Deep Retinex Model WPI Robotics Engineering Program, completed April 2020.
- T18 Luke Buquicchio, Open Set Classification of Smartphone Context, Data Science Program Masters Thesis: co-advisor: Elke Rundensteiner, October 2020 (yielded paper C21)
- T19 Walter Gerych, Versatile Anomaly Detection with Outlier Preserving Distribution Mapping Autoencoders, Data Science Program Masters Thesis: co-Advisor with Elke Rundensteiner Reader: Randy Paffenroth. December 2019.
- T20 Holly Nguyen, Machine Learning Models for Synthesizing Actionable Care Decisions on Lower Extremity Wound Images, Computer Science Dept Thesis, Advisor. Reader: Dmitry Korkin, completed April 2019 (yielded paper J34)
- T21 Shubham Jain, Image Normalization for Wound Assessment, WPI Robotics Engineering Dept, completed April 2019.

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- T22 Chai Nimkar, AlcoGait Gamification, IMGD Master's thesis, Advisor. Completed May 2018.
Reader: Gillian Smith
- T23 Nichole Etienne, Investigating Transfer Learning of Smartphone-Sensed Stress in a College Population, WPI Comp Science Dept., Advisor. Reader: Dmitry Korkin Completed May 2017.
(yielded paper C36)
- T24 Christina Aiello, Investigating Gyroscope Sway Features, Normalization, and Personalization in Detecting Intoxication in Smartphone Users, WPI Comp Science Dept., Advisor. Completed April 2016. Reader: Lane Harrison (yielded paper C65)
- T25 Gauri Pulekar, Socialoscope: Sensing User Loneliness and Its Interactions with Personality Types, WPI Comp Science Dept., Advisor. Completed April 2016. Reader: Chuck Rich (yielded paper C64)
- T26 Muxi Qi, Comparing Signal Processing Features for Detecting Intoxication using Smartphones, WPI Electrical & Computer Engr Dept., Advisor. Completed April 2016
- T27 William DiSanto, scattering in Participating Media using Light Propagation Volumes (LPV), WPI Comp Science Dept., Advisor. (Student completed non-thesis option).
- T28 Che Sun, master's student, Real-Time Global Illumination using Voxel-Based Ray-Bundles, WPI Computer Science Dept., Advisor. Completed Dec 2015. Reader: Robert Lindeman. (Yielded paper J51)
- T29 Sia Mortazavi, Before Eternity: An Adventure Game Inspired by Sufi Mysticism, WPI Interactive Media and Game Design (IMGD) Program, Completed May 2015. Co-advised with Brian Moriarity
- T30 Qian He, master's student, A Context-Aware Smartphone Application for Mitigating Barriers to Physical Activities, WPI Computer Science Dept., Advisor Completed October 2014 (yielded paper C79)
- T31 Damon Blanchette, Adaptive Spectral Mapping for Real-time Dispersive Refraction, master's student, WPI Computer Science Dept., Advisor, Completed January 2012. (yielded papers J55, J57)
- T32 Kevin Yang, MS Thesis, "Algorithm Acceleration with GPGPU, WPI Electrical and Computer Engineering (ECE) Dept., (co-advisor with Xinming Huang), completed Dec 2011
- T33 Juan Li, master's thesis, Application-Directed DVFS using Multiple Clock Domains on Graphics Hardware, WPI Computer Science Dept., Advisor, completed January 2009
- T34 Brandon Light, Energy Efficient Photon Mapping Masters thesis, WPI Computer Science Dept., Advisor. Completed May 2007.
- T35 Peter Lohrmann, Energy-Efficient Ray Tracing of Static Scenes on Programmable Mobile GPUs, master's student, WPI Computer Science Dept., Advisor, (co-advisor: Robert Lindeman). Completed December 2006 (yielded paper C89)
- T36 Chen-Hao Chang, The Study of Energy Consumption of Accelerations Structures for CPU and GPU Ray Tracing, master's thesis, WPI Computer Science Dept., advisor, (co-advisor: Robert Lindeman). Completed December 2006 (yielded paper C89)
- T37 Clifford Lindsay, Real-Time Rendering of Wavelength-Dependent Phenomena Using Spherical Harmonics, master's thesis, WPI Computer Science Dept., Advisor. Completed December 2006 (yielded J64, Po18)

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T38 Kuty Banerjee, Remote Execution for Mobile 3D graphics, master's Thesis, WPI Computer Science Dept., Advisor. Completed May 2005. (yielded paper C99)

PhD Exams Committees and Research Qualifiers

- Ethan Croteau, Assessing GPT's Math Problem-Solving with Critical Imagery, PhD research qualifier examiner, March 2025
- Mohammad Nur Hossain Khan, WPI ECE Dept, PhD Diagnostic Exam, Advisor: Bashima Islam, December 2024
- Akim Ndlovu, SurpriseExplora: Visual Exploration for De-biased Choropleth Maps, PhD Research Qualifier, WPI Computer Science Dept, May 2024
- Mahdi Elhousni, Multi-Modal Visual Mapping and Localization, WPI Electrical and Computer Engineering Dept, Area Exam, Advisor: Xinming Huang, May 2022
- Zhuoran Su, Diagnostic Exam Committee, WPI Electrical Exam, Sept 2021
- Shengmeng Liu, Online Games and Network Latency Compensation Techniques, WPI Computer Science Dept., Research Qualifier, Advisor: Mark Claypool, January 2020
- Shaoju Wu, PhD Exam Committee, WPI Biomedical Engineering Department, Advisor Songbai Ji, in progress
- Yishuang Geng, Area Exam, Advisor Kaveh Pahlavan WPI Electrical and Computer Engineering Department, advisor Xinming Huang, in progress
- Maryam Hasan, Directed Research (co-advised with Elke Rundensteiner), Computer Science Dept., Fall 2013
- Jin Zhao, Feature Algorithms and Application on FPGA, WPI Electrical and Computer Engineering Department, advisor Xinming Huang, April 2015
- Feng Li, PhD student, WPI Computer Science Dept., advisors Mark Claypool and Robert Kinicki, research qualifier, Spring 2007
- Mingzhe Li, PhD student, WPI Computer Science Dept., advisors Mark Claypool and Robert Kinicki, comprehensive exams, 2006
- Mingzhe Li, PhD student, WPI Computer Science Dept., advisors Mark Claypool and Robert Kinicki, research qualifier, 2004
- Choong-Soo Lee, PhD student, WPI Computer Science Dept., advisors with Mark Claypool and Robert Kinicki, research qualifier, 2004

PhD Dissertation Committee

- Stephen Powers, WPI Robotics Engineering Program, PhD Proposal, Advisor: Carlo Pincirillo, January 2024
- Akim Ndlovu, Advancing the Design and Evaluation of Thematic Mapping Techniques, WPI Computer Science Dept., PhD Proposal, Advisor: Lane Harrison, December, 2024

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- Himan Namdari, Drone-Borne Synthetic GPR-Data Analysis for Intelligent Root-Zone Soil Subsurface Assessment, WPI Data Science Program, PhD Proposal, Advisor: Reza Zekavat, May 2025
- Haadi Mombini, A Predictive Decision Support and Explanation Facility with Application for Chronic Wound Management, Advisor: Bengisu Tulu, WPI School of Business, April 2024
- Sean McGovern, Constrained Coverage Motion Planning on 3D Freeform Surfaces, Robotics Engineering Department, Dissertation Committee, Advisor: Jing Xiao. July 2023
- Mahdi Elhousni, Multi-Modal Visual Mapping and Localization, WPI Electrical and Computer Engineering Dept, Advisor: Xinming Huang, May 2022
- Zhuoran Su, TBD, Area Exam Committee, WPI Electrical Exam, December 2022
- Shaoju Wu, Title Applications of Deep Learning in Brain Injury Biomechanics and Spine Image Registration, WPI Biomedical Engineering Department, Advisor Songbai Ji, July 2022
- Alan Ritacco, PhD student, How's My Network - A Health-Based Approach to Home Network Measurement, advisor Craig Wills, WPI Computer Science Dept., completed: Dec. 2019
- Mi Feng, Quantifying and Modeling Open-Ended Explorations of Web Visualizations, PhD, WPI Computer Science Dept, Advisor, Lane Harrison, Completed: April 16, 2019
- Abhishek Mukerji, Pattern Mining and Sense-Making Support for Enhancing the User Experience, PhD, WPI Comp. Sci Dept., Advisor: Elke Rundensteiner, completed Dec. 2018
- Yishuang Geng, Radio Propagation for Localization and Motion Tracking in Three Body Area Network Applications, PhD, WPI Elect. and Computer Engr Dept., Advisor: Kaveh Pahlavan, completed Sept 2016
- Chiying Wang, Dynamic Clustering-Modeling of Discrete Time Series, PhD, WPI Computer Science Dept., Advisors: Carolina Ruiz and Sergio Alvarez, completed April 2016
- Lei Wang, Systems Designs for Diabetic Foot Ulcer Image Assessment, PhD, WPI Electrical and Computer Engineering Department, Completed Feb 22, 2016
- Li Liu, A Personal Obstetric Ultrasound Simulator Supporting Self-Paced Training, PhD Candidate, WPI Biomedical Engineering Dept. Advisor: Peder Pedersen. Completed Dec 2015
- Chuan Lei, Large-Scale Recurring Query Processing: New Models and Optimization Techniques, PhD, WPI Comp. Sci Dept. Advisor: Elke Rundensteiner. Completed Aug 2015
- Jia Wang, Hybrid and Coordinated 3D Interaction in Immersive Virtual Environments, PhD, WPI Computer Science Dept. Advisor: Rob Lindeman. Completed April 24, 2015
- Guanqun Bao, student, PhD, WPI Electrical and Computer Engineering Department, advisor Kaveh Pahlavan, completed April 2014
- Karen Works, Targeted Prioritized Processing in Overloaded Data Stream Systems, PhD dissertation, completed November 2013
- Songxiang Gu, Body Deformation Correction for SPECT Imaging, advisor Michael Gennert, WPI Computer Science Dept., completed June 2009
- Mingzhe Li, PhD student, WPI Computer Science Dept., advisors Mark Claypool and Robert Kinicki, completed December 2006.

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Master's Thesis Reader and Practicum Advisor

- Joshua Ryan Malcarne, Machine Learning for Optimizing Cognitive Radar Waveforms, Advisor: Alex Wyglinski, WPI ECE, June 2024
- Abhishek Shivdeo, Data Diversity Quantification Clustering Out of Distribution, Robotics Engineering Dept (RBE) Practicum presentation, January 2023
- Trevor Amevor, Forecasting Food Security in the United States using Machine Learning Techniques, Advisor: Dmitry Korkin (in progress)
- Connor McLoughlin, Searching for Contextual Subtasks for Semantic Segmentation, Advisor, Jacob Whitehill, completed May 2022
- Brittany Lewis, Finger-Biomechanics based Authentication, Advisor: Krishna Venkatasubramanian (in progress)
- Brett Levasseur, Impact of RLC Acknowledgements on Application Performance in 4G LTE Networks. Advisors: Mark Claypool and Bob Kinicki, 2013
- Derek MacNeil-Blackmer, Distributed Control of Multi-Robot Systems with Software Mobile Agents and ROS. Advisor: Stephen S Nestinger, WPI Mechanical Engineering Dept.
- Jack Benard, Visual Exploration of Genetic Sequence Data through Shape Projection in Xmdv Tool, Advisor: Matt Ward, (incomplete)
- Michael Putnam, A Beaconless Protocol for Improving Energy Efficiency in Wireless Sensor Networks, Advisors: Mark Claypool and Bob Kinicki, (incomplete)
- Sahel Mastoureshgh, Measurement and Method for Receiver Buffer Sizing in Video Streaming, Advisor: Mark Claypool, 2012
- Karki Rabin, Fresh Analysis of Streaming Media Stored on the Web, Advisor: Mark Claypool, 2011
- Rui Lu, Media Scaling for Power Optimization on Wireless Video Sensors, Advisor: Mark Claypool, 2007.
- Natasha Lloyd, Clutter Measurement and Reduction for Enhanced Information Visualization, Advisor: Matt Ward, 2005
- Kerry McKay, Tradeoffs between Energy and Security in Wireless Networks, Advisor: Fernando Colon-Osorio, 2005
- Anilkumar Patro, Pixel Oriented Visualization in XmdvTool, Advisor: Matt Ward, 2004.

Master's Thesis Committees

- Son Nguyen, Bluetooth Packet Capture and Analysis using Wireless Product Testbed, WPI Electrical and Computer Engineering Dept., advisor: Alex Wyglinski, completed December 2020
- Donald Leo Bourque, Investigating monocular Large-Scale Direct SLAM (LSD-SLAM) and Direct Sparse Odometry (DSO), WPI Robotics Department, Advisor Michael Gennert.

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- Yang Yang and Zhouchi Li, Implementation and Algorithms for In-Room Localization Technology using iBeacon, WPI Electrical and Computer Engineering Dept., advisor Kaveh Pahlavan, completed April 2016
- Julang Ying Barometer-Assisted 3D Indoor Wi-Fi Localization for Smart Phones-Map Selection and Performance Evaluation, WPI Electrical and Computer Engineering Dept., advisor Kaveh Pahlavan, completed April 2016
- Jin Zhao, Video/Image Processing on FPGA, WPI Electrical and Computer Engineering Department, advisor Xinming Huang, completed April 2015
- Guanxiong Liu, Performance of Hybrid Localization Using Inertial, RFID and Wi-Fi Signal, WPI Electrical and Computer Engr Dept., advisor Kaveh Pahlavan, completed April 2015
- Mingda Zhou, On the Accuracy of Wireless Capsule Endoscope Visual and RF Localization, WPI Electrical and Computer Engr Dept., advisor Kaveh Pahlavan, completed April 2015
- Liang Mi, A Testbed for Design and Performance Evaluation of Visual Localization Technique inside the Small Intestine, WPI Elect & Comp Engr Dept., advisor Kaveh Pahlavan, April 2015

Undergraduate Projects Advised and Co-Advised at WPI

Major Qualifying Projects (MQPs) Advised/Co-Advised (54 total)

2021-22

M1 Praise Eteng, Passive Mobile Mental Health Screening using Machine Learning, EOA 0047, Computer Science Dept, WPI, A, B and C terms 2021-22

2020-21

M2 Caitlin Enright, Orlando Aviles, Theodoros Konstantopoulous and Jean-Philippe Anthony Pierre, Smartphone Infection Tracking, EOA 0046, Computer Science Dept, WPI, A, B and C terms 2020-21 (yielded paper C17)

2019-20:

M3 Thar Min Htet, Smartphone Gait Authentication, EOA 0044, Computer Science Dept, WPI, A, B and C terms 2019-20.

M4 Saina Rezvani, Detecting Intoxication from Audio using Neural Networks, EOA 0043, Computer Science Dept, WPI, C, D (2018-19) and A term (2019-20)

2018-19:

M5 Tessa Garbely, Jesse Ying, Adam Bettigole, WPI Mobile Health Community, EOA 0042, Computer Science Dept, WPI, 2018-19.

M6 Cameron Russell Maitland, Learning Exergame Enjoyment, Computer Science Dept, WPI.

M7 Paul Roberts, Colin Willoughby, Ian Banatoski, Drunk Selfie, WPI Computer Science Dept., (yielded paper C49)

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- M8 Nicholas Cheung, Sam Huang, Joseph Bremner and Quoc Ho Lam, Alcgait Deep Learning, Computer Science Dept.
- M9 Ada Dogrucu, Aleksa Perucic, Damon Ball, Anabella Isaro, Depression Sensing, Computer Science Dept.
- M10 Derrek Rueger, Bryan Benson and Benjamin Huchley, Behavioral Authentication, Computer Science Dept.

2018-19:

- M11 Charles Lovering, Anqi Lu, Cuong Nguyen, Huyen Nguyen, Computer Science Dept, WPI, Sponsor: Microsoft Corporation (yielded papers J34, C54)

2016-17:

- M12 Arthur Dooner, Arun Donti, Stephen Lafortune and Walter Ho, Implicit Mobile Authentication
- M13 Akshay Thejaswi, Aditya Nivarthi and Daniel Beckwith, Detruncation of Attenuation Maps using Neural Networks (co-advised with Clifford Lindsay) (**Honorable Mention for Provost's Award for best MQP in Computer Science Dept., top 3 out of 46 MQPs**) (Resulted in paper C57)
- M14 Rupak Lamsal, Jules Voltaire and Matthew Nguyen, Behavior Change Contextualizer
- M15 Elijah Lee Gonzalez, Nicholas Wong, Joshua Audibert, CyPRESS Exergame Enjoyment, (co-advised with Prof Mark Claypool) (Resulted in papers C5, C66)
- M16 Jacob Watson, Andrew McAfee, Benjamin Bianchi, AlcoWatch Intoxication Detection, (**Top 5 out of 46 for Provost's Award for best MQP in Computer Science Dept.**) (Resulted in paper C58)
- M17 Mengwen Li, Deep Learning for Intelligent Transport, (co-advised with Xinming Huang, Project sponsor: MathWorks Inc.)

2015-16:

- M18 Robert Esposito and Joseph Hill, FitU, (co-advised with Robert Lindeman)
- M19 Anthony Gallo, Phillip Baumann, Fitness in Mobile Gaming (Resulted in paper C62)
- M20 Stephen Ireland, Anthony Romeo, Android Smoking Detection

2014-15:

- M21 Yong Piao, Advanced 3D Rendering
- M22 John Haas, Onder Goksaran, Wellness Gamification, (co-advised with Prof Elke Rundensteiner)
- M23 Haley Andrews, Nathan Ford, Evan Safford, SAM Fitness: An Android Wellness-Application, (co-advised with Prof Elke Rundensteiner)
- M24 Zachary Arnold, Danielle LaRose, Smartphone Gait Inference, (co-advised with Joseph Petrucelli, WPI Math Dept.) (**Provost's Award for best MQP in Computer Science Dept., 2014-15**) (Resulted in papers C72, C73)
- M25 Andrew Paon, Adam Chaulk, GPGPU for Storage Networks (Project Sponsor: EMC)

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2013-14:

- M26 Edison Jimenez, Seth Crampton, Smartphone Radio App, (co-advised with Scott Barton, WPI Humanities Dept.) (Project Sponsor: WICN Public Radio, Worcester) (**nominated for best MQP in Computer Science Dept., 2013-14**)
- M27 Kevin Hufnagle, Android Photo Maps Application, (co-advised with Prof Jennifer DeWinter (humanities))

2012-13:

- M28 Greg Wheeler, Billy Estrella, Jay Miller, Homesite Insurance Smartphone application, (co-advised with Profs Matt Ward (CS), and Guillermo Salazar (CEE) project sponsor: Homesite Insurance)

2011-12:

- M29 Eric Baicker-McKee, Jing Zhang, Binh Thanh Pham, Endicia Labeler, (co-advisor: Prof David Finkel, (Project sponsor: Endicia) (**nominated for best MQP in Computer Science Dept., 2011-12**)
- M30 Jackson Fields, Real-Time GI Rendering Engine
- M31 Xiao Du, Zhaochen Liu, David Rolle, Improved Visualization of Networked Storage Metrics (co-advised with Prof Matt Ward, Project sponsor: EMC)

2010-11:

- M32 Devin Thomas, Benjamin Lipson, and Punit Dharani, RFID Navigation System for the Visually Impaired (yielded paper C82)
- M33 Evan Duderevicz, Brendan Harris, Thomas Jenkins, Ken Miyauchi, Michael Ng, Mom-O-Meter: A self-help pregnancy Android app (co-advised with Bengisu Tulu, WPI School of Business) (Resulted in paper Po13)
- M34 Nicholas Deapen, Physically Based Rendering (not completed)

2009-10:

- M35 Dickson Madison, Michael Oliver, Photorealistic Shader Effects
- M36 Ryan Lefevre and Bryan Crabtree, Mobile Social Networking Colors (**nominated for best MQP in Computer Science Dept., 2009-10**)
- M37 Eric Nadeau and Skyler Whorton, FPGA-Based Graphics Acceleration

2008-09 (On sabbatical):

- M38 Andrey Yamshchikov and Shengshi Zhao, Financial Computations on the GPU (Project Sponsor: Fidelity Investments)

2007-08:

- M39 Alexander Yeganov, Aaron Root, Chris Donnelly, 3D Mobile Game Engine
- M40 Christopher Woo, Victoria Zukas, Enhanced Game DSL with Graphics

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- M41 Daisuke Abe, Corey Christous, The Effects of Task Intensity on Attention
- M42 Berk Birand, WiFi Localization
- M43 Andrew Halloran and Isaac Chanin, Wireless Sensor Network for Monitoring Applications, co-advisor with Wenjing Lou
- M44 Matthew Caulkin, Air Cargo Drop Visualization (Project Sponsor: Army research labs)

2006-07:

- M45 Pfeill Andy, ATI Catalyst Control Center Preview Application Update (Project Sponsor: ATI)

2005-06:

- M46 Bangs Andrew, Haerinck Shaun, Kluft Aubrey, Location Aware Security Application
- M47 Haag Matt, Stale Data Expiration and Store-Forward Routing (Project Sponsor: Autonomous Undersea Systems (AUSNet)) (Resulted in papers J61, C92)

2004-05:

- M48 Xiaohe Hu and Theodore Phillips, Efficient Graphics for Mobile Devices
- M49 William West, Power Consumption of Ad Hoc Routing Protocols (Resulted in paper J63)
- M50 Brendan Batchelder, Location-Aware Computing (Incomplete)
- M51 Zhuo Chen and Aram Dulyan, MPEG-4 Streaming for Mobile Devices (Co-advisor with Mark Claypool)

2003-04:

- M52 Paul Fydenkevez, Matt Gage and John Reynolds, Extreme Graphical Simplification using Images.
- M53 Tom Beigbeder, Rory Coughlan, Corey Lusher, and John Plunkett. The Effects of Packet Loss and Latency on Player Performance in Unreal Tournament 2003 (Co-advisor with Mark Claypool) (Resulted in paper C106)
- M54 Ali Taheri and Arvinder Singh, Locus: Wireless LAN Location Sensing (**Provost's Award for best MQP in Computer Science Dept., 2003-2004**) (Resulted in papers C103 and C104)
- M55 Ben Sandorfsky and Jonathan Guillory, Rendering Structural Colors (**nominated for best MQP in Computer Science Dept., 2003-2004**)

2002-03:

- M56 Randy Chong, Java BRDF Viewer (Co-advisor: Prof Matt Ward)
- M57 Nathan Sheldon, Eric Girard and Seth Borg, The Effect of Latency on Performance in Warcraft III. (Co-advisor with Mark Claypool) (Resulted in paper C108)
- M58 Brian L'Heureux, Michael McHugh and Benjamin Privett, EMS Portable Workflow, (co-advisor with Robert Kinicki) (Resulted in paper C94)

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Interactive Qualifying Projects (IQPs, Undergraduate Thesis on using Technology to Solve Societal Problems) Advised/Co-Advised

- I1 Anthony Qin, Brad Scuzzarella, Christopher Bearce, Run for Fun User Studies, 2017-2018. (co-advised with Mark Claypool)
- I2 Dongjie Wang, Sam Huang, Run and Fun Measurement (co-advised with Mark Claypool) (Resulted in paper C43)
- I3 Kyle Sposato, Alexander Fitzgerald, Run for Fun predicting (co-advised with Mark Claypool) (Resulted in paper C43)
- I4 Dean Kiourtsis, Nolan James, Kevin Truc, Katelyne Sibley, Attitudes Towards Technology-Based Alcohol Interventions
- I5 Shawn Yoon Smart Technology-Based Parking (co-advised with Mohamed Eltabakh)
- I6 Alex Carly-Dorsey, James Jackman, Nicholas Massa, Smartphone Health Games
- I7 Amorn Chokchaisiripakdee, Nuttaworn Sujumnong, Latthapol Khachonkitkosol, Smartphone Health Games (Resulted in paper BC1)
- I8 Seth Martin Crampton, Tech Bible Mobile App
- I9 Muhammad Azeem, Rohit Jagini, Mandela Kiran and Kaushal Shrestha, Social Implications of Graphics Processing Units
- I10 Taryn Flagg, FCCH Website Development Plan, (Co-advised with Stanley Selkow), (Not completed)

Other Undergraduate Advising

- RE1 Faculty Mentor REU Students summer 2017, WPI REU Site: Courtney Burns (REU), and Jennifer Ha (REU), with WPI undergraduate student Andrew Schade (WPI), co-mentored by Graduate student: Ermal Toto and by Faculty Advisors: Professors E. Agu and E. Rundensteiner
 - Yielded Poster and Presentation: Using Machine Learning to Detect Depression by Voice, IEEE MIT Undergraduate Research Technology Conference, Nov 2017, <http://ieeescrpts.mit.edu/conference>

Academic Advising at WPI

My advising roster since arrival at WPI has consisted of 15-25 undergraduates and 10-15 graduate students per academic year. Several of my advisees have explicitly requested me as their advisor after taking a class with me.

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SERVICE

Service to the Profession (External to WPI)

Journal Editorships (2)

PC1 Associate Editor, Int'l Journal of Wireless Information Networks, Springer

PC2 Associate Editor, Int'l Journal of Handheld Computing Research, IGI Global

Program Committees and Meeting Organization (22)

PC3 Organizer, NIH Center for Suicide Prevention (CAPES) talk on "Using Large Language Models (LLMs) for Mental Health" by Backpack Healthcare (company), December 18, 2024

PC4 Program Committee, IEEE Connected Health: Applications, Systems and Engineering (CHASE), 2016-2026 (Pittsburgh).

PC5 Program Committee, Int'l Symposium on Visual Computing (ISVC), Las Vegas, 2009-2025

PC6 Machine Learning and Human Computer Interaction Conference 2020, Singapore

PC7 IEEE TrustCom Conference 2020, Guangzhou, China

PC8 The 4th International Conference on Biological Information and Biomedical Engineering (BIBE 2020), Chengdu, China

PC9 Program Committee, IEEE COMPSAC 2019, Milwaukee, 2020, Madrid Spain.

PC10 IEEE-NIH Healthcare Innovations and Point-of-Care Technologies (HI POCT) conference 2019, Washington DC

PC11 Program Committee, IEEE Int'l Conference on Ubiquitous Intelligence and Computing (UIC), 2017 (San Francisco), 2018 (China), also PC member Intelligent/Smart Environments track, Leicester 2019, Hainan China 2022, Portsmouth UK 2023, Fiji 2024

PC12 Program Committee, IARIA Int'l Conference on Informatics and Assistive Technologies for Healthcare, Medical Support and Wellbeing (HEALTHINFO) 2017, Athens, Greece, 2018, Valencia, Spain 2019

PC13 Program Committee, Third Int'l Symposium on Signal Processing, and Intelligent Recognition Systems (SIRS'17), Manipal, Karnataka, India

PC14 Technical Program Committee, IEEE Region 10 Symposium (TENSYP) 2017

PC15 Program Committee, ACM MobiHoc Workshop on Pervasive Wireless Healthcare (in conjunction with ACM MobiHoc), 2017

PC16 Program Committee, IEEE 10th Int'l Symposium on Medical Information and Communication Technology (ISMICT), 2016 (Worcester, MA), 2017 Lisbon Portugal, 2018 Sydney Australia, Oslo 2019

PC17 Program Committee, 2nd Workshop on mobile medical applications – Design and Development 2015, co-located with ACM Sensys 2015, Seoul, South Korea

PC18 Program Committee, ACM 5th Int'l Workshop on Pervasive Wireless Healthcare (MobileHealth), co-located with Mobihoc 2015

PC19 Program Committee, Workshop on mobile medical applications – Design and Development 2014, co-located with ACM Sensys 2014, Memphis, Tennessee

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- PC20 Technical Program Committee member, PIMRC 2011 Wireless Networks and Healthcare (WNHC) track, Toronto, Canada
- PC21 Program Committee, Eurographics Conference, Mobile Graphics track, 2010
- PC22 Program Committee, 1st Int'l Workshop on A New Generation of Malware: Models, Analysis, and Counter Measures" (MALWARE) in 2006 and 2007.
- PC23 Session co-chair, Rendering session, IASTED Visualization, Imaging, and Image Processing (VIIP 2002) conference, Malaga, Spain

Reviewer (Papers and Books)

Journal paper reviewer (20)

- RV1 Advances in Wound Care
- RV2 MDPI Sensor Journal
- RV3 IEEE Journal of Biomedical and Health Informatics (JBHI)
- RV4 ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)
- RV5 Elsevier Computers in Biology and Medicine Journal
- RV6 Journal of Translational Engineering in Health and Medicine
- RV7 Smart Health Journal
- RV8 ACM Transactions on Graphics
- RV9 Annals of Telecommunications - Annales des Telecommunications.
- RV10 IEEE Security and Privacy Magazine
- RV11 Journal of Medical Internet Research (JMIR)
- RV12 Journal of 'Personal and Ubiquitous Computing', special issue on 'Interaction and Visualization of 3D Virtual Environments on Mobile Devices'
- RV13 Springer multimedia systems Journal
- RV14 Computer Graphics Forum Journal
- RV15 IEEE Computer Graphics & Applications (CG&A) Journal
- RV16 IEEE Transactions on Parallel and Distributed Systems
- RV17 Int'l Journal of Handheld Computing Research (IJHCR)
- RV18 IEEE Transactions on Parallel and Distributed Systems
- RV19 ACM Transactions on Mobile Computing
- RV20 IEEE Internet Computing Journal

Conference Paper reviewer (23)

- RV21 IEEE Engineering in Medicine and Biology Conference (EMBC)
- RV22 IEEE International Conference on Digital Health
- RV23 IEEE Computer Society Computers, Software, and Applications Conference (COMPSAC)
- RV24 ACM Special Interest Group on Computer Graphics (SIGGRAPH) Conference
- RV25 International Symposium on Visual Computing (ISVC)
- RV26 ACM Multimedia Systems (MMSys) Conference
- RV27 American Medical Informatics Association Symposium
- RV28 ACM Int'l Joint Conference on Pervasive and Ubiquitous Computing

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- RV29 IEEE Connected Health: Applications, Systems and Engineering (CHASE)
- RV30 European Association for Computer Graphics (Eurographics) Conference
- RV31 Int'l Conference on Multimedia and Expo (ICME)
- RV32 IEEE Multimedia Conference
- RV33 IEEE Wireless Communications and Networking Conference (WCNC)
- RV34 IEEE Visualization Conference
- RV35 Eurographics Symposium on Rendering (EGSR)
- RV36 IEEE 10th Int'l Symposium on Medical Information and Communication Technology (ISMICT)
- RV37 Workshop on Mobile Medical Applications (MMA), co-located with ACM Sensys
- RV38 Workshop on Massively Multiuser Virtual Environments (MMVE)
- RV39 General Purpose Computing using Graphics Processing Units (GPGPU) Workshop
- RV40 IEEE Int'l Symposium Personal, Indoor and Mobile Communications (PIMRC)
- RV41 Int'l Conference on Malware
- RV42 Computer Graphics Int'l (CGI) Conference
- RV43 1st Int'l Workshop on A New Generation of Malware: Models, Analysis, and Counter Measures" (MALWARE), co-located with IEEE IPCCC

Grant Panels/Meetings and Proposal reviews (14)

- RV44 HSR3: Healthcare Informatics & Access to Care for the Veterans Affairs Health Systems Research (HSR)
- RV45 NSF Smart and Connected Health (SCH), ad hoc proposal reviewer, Jan 2023
- RV46 HEAL Initiative: Secondary Analysis and Integration of Existing Data Related to Acute and Chronic Pain Development or Management in Humans, July 2022
- RV47 Clinical Data Management and Analysis (CDMA) study section at the CSR NIH, Feb 2022
- RV48 Medical Imaging (SBIB-10 NIH ZRG1 small business grant applications), Nov 2021
- RV49 Clinical Informatics and Digital Health Study Section, June 2021
- RV50 NSF Smart and Connected Health in Biomedical Era, April 2021
- RV51 NIH/CSR ZRG1 ETTN-M (12) Special Emphasis Panel, Small Business: Aging, Auditory, Vision and Low Vision Technologies – ETTN (12), Ad hoc reviewer, March 2021
- RV52 NIH/CSR ZRG1 HDM-E (90), Technology Assisted Clinical Informatics study section, November 2020
- RV53 NIH NIAAA ZAA1 DD (C1) Contract Review - NIH/NIAAA 018 (Alcohol Biosensor Development for Continuous Alcohol Consumption Monitoring), April 2020
- RV54 NIH/NCI Small Business Innovation Research (SBIR) topic 410: Cancer Clinical Trials Recruitment and Retention Tools for Participant Engagement, February 2020
- RV55 NSF Smart and Connected Health (SCH) CISE Research Initiation (CRII) Panel, December 2019
- RV56 Diabetes UK Funding Agency (External grant Reviewer), 2008
- RV57 Global Center for Food Systems (GCFSI) Food Systems Innovation Grants Competition, Michigan State University, 2007
- RV58 TEKES, Finnish Funding Agency for Innovation, Research Organization, Helsinki, Finland, 2004

Book Reviewer (9)

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- RV59 Smartphone apps for health and wellness, Elsevier
- RV60 OpenGL ES 3.0 Programming Guide, by Aaftab Munshi, Dan Ginsburg and Dave Shreiner, Addison Wesley
- RV61 Modern Computer Networks 1st edition by Lin-Hwang-Baker, McGraw-Hill publishers
- RV62 Computer Networks, 5th edition by Andrew Tanenbaum, Prentice-Hall
- RV63 Computer Graphics with OpenGL, 3rd edition, by Hearn and Baker, Prentice-Hall
- RV64 Nitin Vaidya, Wireless Networks, Cambridge University Press
- RV65 Ron Goldman, An Integrated Intro. to Computer Graphics and Geometric Modeling, CRC
- RV66 Karri Pulli *et al*, “Mobile 3D Graphics Fundamentals”, Morgan Kaufmann
- RV67 “Computer Graphics using OpenGL” by Francis S Hill Jr. and S. Kelly, Prentice-Hall

Service to WPI

- SW1 Faculty Director, Health Delivery Institute, WPI, from July 1, 2017 – Date
 - Lead a university-wide, multidisciplinary research institute advancing healthcare research, education and thought leadership in the areas of precision health, digital and mobile health, medical image analyses, artificial intelligence for healthcare, robotic surgery and health systems engineering.
 - Spearhead strategic healthcare-focused research and teaching initiatives that integrate expertise across engineering, computer science, business, and social sciences to address complex healthcare challenges.
 - Oversee a collaborative network of 25+ faculty and their research teams, driving innovation in areas such as IoT and smart device-enabled care, precision health, machine learning for health data, cybersecurity for healthcare, and user-centered design.
 - Cultivated partnerships with healthcare providers, government agencies, and industry leaders to translate research into impactful solutions for patient care and system efficiency.
 - Guided HDI’s growth to secure over \$57 million in cumulative funding since 2009, spanning a gamut from small exploratory grants to center-level NIH grants that support cutting-edge research projects and graduate education programs in healthcare informatics, systems and delivery.
 - Champion thought leadership through symposia, publications, and educational programs that shape the future of healthcare delivery and policy.
 - Mentor emerging scholars and professionals, fostering interdisciplinary talent to lead transformation in the healthcare sector.
- SW2 Committee on Appointments and Promotions (COAP), 2021 - 2024
- SW3 Search committee, Chairman’s prize, 2022-23, and 2023-24
- SW4 Search committee, Department Head, Biology and Biotechnology (BBT) Department, 2023
- SW5 Panelist, Panel on early startups, WPI’s Research Discovery and Innovation (ReDI) symposium, 2024
- SW6 Reviewer, WPI School of Arts and Science Summer Research Experience for Undergraduates (STAR) program 2024
- SW7 Faculty Advisory Committee, MS Degree in Global Health, 2023-Date

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- SW8 Lead judge, Computer Science, Data Science and Cybersecurity, Graduate Research, and Innovation Exchange (GRIE), 2023
- SW9 Panelist, WPI Research Solutions Institute (RSI) NIH workshop for faculty interested in pursuing NIH funding for their research, January 17, 2023
- SW10 Mental Health and Well-Being (MHWB) Task force, Sept 2021 – March 2022.
- SW11 President's nominee, WPI Faculty Review Committee (FRC), December 2019 – Date
- SW12 Science, Engineering, and Innovation for Global Development Program, WPI Global School, January 2020 – Date
- SW13 Affiliated Faculty, Robotics Engineering, WPI, July 2018 – Date
- SW14 Affiliated Faculty, Biomedical Engineering, WPI, July 2018 – Date
- SW15 Affiliated Faculty, Electrical & Computer Engineering Dept., WPI, July 2018 – Date
- SW16 Affiliated Faculty, WPI Data Science Program, 2013 – Date
- SW17 Affiliated Faculty, WPI Bioinformatics Program, 2011 – Date
- SW18 Affiliated Faculty, WPI Interactive Media & Game Dev. (IMGD) Program, 2005 – Date
- SW19 Member Undergraduate Research Advisory Board (Chair Suzanne Weekes), 2019 - Date
- SW20 Member, co-group leader, Provost's Bio-X initiative
- SW21 Mentor, Arts & Science Summer Research Experience for Undergraduates (STAR program) 2018 (Mentee: Adonay Resom)
- SW22 Member, Innovation and Entrepreneurship Campaign Planning Focus Group, 2018
- SW23 Review committee, School of Arts and Science (A&S) summer research experience for undergraduates, April 2018
- SW24 Member, President's Innovation and Entrepreneurship Center Committee, 2016-Date
- SW25 Member, Faculty Steering committee, Health Delivery Institute, WPI, 2010 – Date
- SW26 Affiliated Faculty, WPI Electrical & Computer Engineering Dept, July 2015 - Date
- SW27 Faculty member, Center for Wireless Information Network Studies (CWINS), Electrical and Computer Engineering Dept., WPI, 2002 – Date
- SW28 CWINS is the world's first wireless research lab, founded by Prof Kaveh Pahlaven (ECE)
- SW29 Faculty member, WPI Wireless LAN Research Laboratory (WLRL) at WPI
- SW30 Judge, GRIE Poster competition, WPI, 2015
- SW31 Judge, GRAD Poster competition, WPI, 2006 & 2007
- SW32 Member, WPI President's Interactive Qualifying Project (IQP) judging panel, 2003.

Service to WPI CS Department

- SCS1 Library Liaison, WPI CS Dept, July 1, 2025 - Date
- SCS2 Undergraduate Committee, WPI CS Dept., 2002-2003, July 2023 - Date
- SCS3 Graduate Coordinator, July 2021 – June 2023

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- SCS4 Graduate Research Committee, WPI CS Dept., 2005-2007, 2009-2010, 2011-2013, 2015-2017, head 2021 – 2023.
- SCS5 Graduate admissions committee, WPI CS Dept., 2004-2005, head 2021 - 2023
- SCS6 Tenure Committee, WPI CS Dept, 2019 - 2021
- SCS7 Hiring Committee, WPI Computer Science Dept., 2015-16, 2016-17, 2019-20
- SCS8 Screening committee, IMGD serious games hire.
- SCS9 Coach, Computer Science Graduate Student Participants, I3 Innovation competition 2013
- SCS10 Promotions Committee, WPI CS Dept., 2005-2007, 2009-2010
- SCS11 Technical Report Coordinator, WPI CS Dept, 2014-2021
- SCS12 Selection Committee, Lee Becker scholarship, 2013
- SCS13 Coordinator, Image Science Research Group (ISRG), 2003-2004, 2016-2017
- SCS14 Founder and coordinator, Mobile Graphics Research Group (MGRG), 2003-date
- SCS15 Education committee, WPI CS Dept., 2003-2004
- SCS16 Member, WPI, CS building committee, 2002-2003, 2003-2004

Service to the Community

- Guest speaker, Strategies for seeking healthcare research funding, Synergy in Partnerships, Advanced Research and Knowledge (SPARK) workshop, SUNY POLY, June 23, 2025
- Member, External Advisory Board of the Biomedical Materials Committee at the State University of New York Polytechnic Institute, April 2025 till date
- Faculty advisor, WPI African Graduate Student Association (AGSA), Nov 5, 2024 till date
- Guest speaker, National Society of Black Engineers, WPI Chapter, November 8, 2023
- Mentor, African students, Partnership for skills in Applied Sciences, Engineering and Technology (PASET) Program, World Bank, 2018-Date
- Organizing committee, Woo Health Hack Hackathon (WooHacks) (jointly organized by UMass Medical School and all 7 Worcester Colleges), November 2019
- Mentor, Rachel Davis-Martin, K23 grant application, UMass Medical School (aims to aggregate biosensors, smartphone data, and EMA to create a technology enabled Technology Enabled Monitor of Alcohol Detoxification (TEMAD, clinical tool that measures alcohol withdrawals)

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- Session Chair and Organizer, World Bank Workshop for Math, and Science for Sub-Saharan Africa (workshop to develop modules and train sub-saharan Africans to improve dissemination of STEM skills), May 2017
- Guest speaker, Mathematics in Computer Graphics and Games, at Mathematics Institute for Secondary Teaching, hosted by Suzanne Weekes and Luca Capogna, 2014, 2015, 2017.
- Guest speaker, Bancroft High school, Talk on the Igbo culture, 2008.
- Guest speaker, GEM: Graduate Degrees for Minorities in Engineering and Science Program, Boston University, October 2006.
- Guest speaker, WPI MASTER program for minorities to strengthen minority high school student's skills and abilities in math, engineering and science, November 2, 2005
- Guest speaker, WPI MASTER program for minorities to strengthen minority high school student's skills and abilities in math, engineering and science, February 16, 2005

Awards/Honors Related to Service

- WPI Faculty Recognition Award for significant funding in research, 2020
- WPI Faculty Recognition Award for Promotion to Full Professor, 2019
- WPI Faculty Recognition Award for being Director of the Health Delivery Institute (HDI), 2017