

# Zhongfang Zhuang

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OBJECTIVE Seeking a full-time position that exploits challenging problems of innovative products and services.

EDUCATION **Ph.D. Candidate, Computer Science** Expected Graduation: Spring 2019

Worcester Polytechnic Institute, Worcester MA, United States

- Dissertation: Deep Learning on Attributed Sequences
- Advisor: Dr. Elke Rundensteiner ([rundenst@wpi.edu](mailto:rundenst@wpi.edu))
- Committee Members: Dr. Xiangnan Kong, Dr. Mohamed Eltabakh, and Dr. Philip Yu

**Master of Engineering, Software Engineer** Jul 2013

Beijing University of Posts and Telecommunications, Beijing, China

**Bachelor of Engineering, Computer Science** Jul 2011

Xi'an University of Posts and Telecommunications, Xi'an, China

RESEARCH IN Collaborated with R&D teams at Amadeus for fraud detection projects by analyzing user behaviors.

DEEP LEARNING Identified four different scenarios and designed patentable innovative frameworks using neural networks.

**Attention Network for Fraud Detection** May 2018 – Oct 2018

- Designed and implemented a novel neural attention model for attributed sequence classification.
  - Integrated conventional sequence attention model with the attributes from user profiles.
  - Evaluated the proposed model and compared with state-of-the-art approaches to confirm its effectiveness.
- Zhongfang Zhuang, Xiangnan Kong, and Elke Rundensteiner. “AMAS: Attention Model for Attributed Sequences Classification”, in submission.

**Fraud Detection in One Shot** Dec 2017 – Apr 2018

- Challenged by the real-world scenario that only one fraud case per fraud type is available.
  - Designed a multimodal siamese neural network that is capable of generalizing from only one example.
  - Studied and evaluated the proposed model in various real-world scenarios with diverse parameter settings.
- Zhongfang Zhuang, Xiangnan Kong, Elke Rundensteiner, Aditya Arora and Jihane Zouaoui. “One-shot Learning on Attributed Sequences”, accepted by IEEE Big Data 2018 (acceptance rate 18.9%).

**Incorporate User Feedback for Fraud Detection** Mar 2017 – Dec 2017

- Identified the challenges of incorporating the feedback from human domain experts in fraud detection.
- Formulated the problem of deep metric learning on attributed sequences.
- Designed and implemented a deep learning framework to effectively learn from the human feedback.
- Evaluated the purposed model and confirmed it outperforms state-of-the-art in various mining tasks.



- Helix exploits new sliced window-alignment techniques to create sharing opportunities among recurring queries without introducing additional I/O overheads or unnecessary data scans.
- Introduced a cost/benefit model for creating a sharing plan among the recurring queries, and a scheduling strategy for executing them to maximize the SLA satisfaction.

Chuan Lei, Zhongfang Zhuang, Elke Rundensteiner, and Mohamed Eltabakh. “Shared Execution of Recurring Workloads in MapReduce,” VLDB 2015.

**TECHNICAL**      **Data Processing Systems:** Apache Hadoop, Apache Spark

**SKILLS**            **Deep Learning Tools:** TensorFlow, Theano, Keras

**Programming Languages:** Python, Java, C++, Bash

**Visualization Tools:** matplotlib, plot.ly

**AWARDS**            WPI Graduate Research Innovation Exchange Finalist 2015

ACM CIKM 2016/SIGIR Travel Grants

IEEE Travel Award for Big Data 2018

**PROFESSIONAL**    External reviewer for EDBT 2014, 2017, VLDB 2015, ICDE 2016, SIGMOD 2015, 2017  
**SERVICE**

**REFERENCES**      **Dr. Elke Rundensteiner**  
Founding Director, Data Science  
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