Computer Science MQP Interests
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General Areas of Interest

- Intelligent mobile apps, detect user behavior
  - Phone sensor data + Machine learning
  - Application areas:
    - Health, wellness, drunk detection, wound analysis
    - Security

- **Important:** Prefer students who know Machine/deep learning, mobile/Android programming
Goal: Detect student mental health passively using smartphone sensors + machine/deep learning

MQP idea: Passively

- Assess student’s mental health (depression, mood, anxiety): using passively gathered smartphone sensor data (step count, routines, building types visited, isolation/proximity to others (uses bluetooth, WiFi co-location), presence at types of locations, busy places, dining vs residence, etc)

Specifics: Run 2-week data gathering study. Students respond periodically to mental health questions, smartphone gathers sensor data

Machine/deep learning: Classifiers to predict student’s mental health responses
MQP 2: Drunk Selfie App

- **App** to detect how drunk a person is from their selfie?
- **Facial analysis:** can we make reliable inference/improve performance using deep learning?
- **Background:** Previous MQP used machine learning with handcrafted features
- **Note:** Focus of the MQP will be deep learning analysis.
  - **Stretch goal:** Build actual drunk selfie Android app