Xiao Ling

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504 Meredith Anne Court, Apt 305, Raleigh, NC, 27606

EDUCATION

North Carolina State University **2019.8 – 2023.5 (Expected)**

Doctor of Philosophy in Computer Science | Advisor: Dr. Tim Menzies | GPA: 3.50/4.00

North Carolina State University **2017.8 – 2019.5**

Master of Science in Applied Mathematics | GPA: 3.50/4.00

Methodist University **2013.8 – 2017.5**

Bachelor of Science in Computer Science and Mathematics | GPA: 3.76/4.00

WORK EXPERIENCE AND RESEARCH EXPERIENCE

Company Merger and Acquisition Prediction Model **Jun. 2020 - Present**

Cooperation project with LexisNexis Legal & Professional

- Select accessible features by conducting literature review on M&A expert knowledge and M&A prediction models.
- Build web scraper to collect M&A news feeds from various websites and collect features from various sources to create data set.
- Build classification machine learning models (LDA, SVM, LSTM, and Random Forest) to predict the future M&A events.

The Best Test Case Prioritization Scheme for Open and Closed Source Projects **Dec. 2019 - Jun. 2020**

NSF partially funded project in RAISE Lab

- Collect and clean up the data from both GitHub Software Engineering projects and Computational Science projects data source.
- Retrieve all famous history-based test case prioritization schemes on the large-scale selected software projects.
- Find huge difference on prioritization schemes in open and closed source projects - the scheme that worked best in the closed-source project can failed in open-source projects since they mostly trigger multiple testing builds for a single component.

***Assistant,* Bank of Communication, Information and Technology Department** **Dec. 2015 - Feb. 2016**

- Design internal REST API which used across all team.
- Fix bug and implemented J2EE web program, connected to internal Mysql Database
- Use Linux to control the programs and data exchange.

Research Assistant **Oct. 2019 - Present**

Research Assistant @NCSU RAISE Lab with supervisor Dr. Tim Menzies

- Research on test case prioritization by using defect prediction in various projects. The goal of this study is to build a scheme that can enhance the regression testing by only accessing very limited build log information (e.g. files change info and tests run)
- Conduct large-scale text mining studies in industrial such like job resume matching and company merger and acquisition prediction.

Teaching Assistant **Aug. 2019 - Present**

Teaching Assistant @NCSU Computer Science Department

- Teaching Courses: Object Oriented Programming - Java, Discrete Math, Software Engineering.
- Coordinate with professor & other TAs to consolidate teaching plans, structure the course, and conduct review sessions.

PROJECTS & COMPETITIONS

Smart Weather Application in Android OS **Jan. 2020 - Jun. 2020**

- Program user interface and application functions by using C#.
- Collect and display weather reports and weather forecast by connecting to the local weather station by GPS signal.
- Build clothes, food, and activities recommendation system in the application by implementing fuzzy logic approach.

Hand Gesture Identification – Internet of Thing **Jan. 2020 - Jun. 2020**

- Build python code to play the created ultrasound and receive the echo wave for the purpose of collecting hand gesture data.
- Train the Random Forest model with the ground truth data on the MQTT service. Test results show that our model can achieve very high accuracy on predicting different hand gestures.
- Establish MQTT service to allow smart devices publish echo wave data to MQTT service and receive predicted hand gestures.

Automated Detection of Lesion in CT Image by using Convolutional Neural Network and U-Net **Aug. 2018 - Dec. 2018**

- Train Convolutional Neural Network and U-Net with around 30,000 CT images to identify the bounding boxes of the lesion area.
- Test the model on the test dataset. The least square error shows our model can locate the bounding boxes of the lesion area with very high accuracy. This task is the first step of automated lesion detection, diagnosis, and comparison.

Neural Ordinary Differential Equation Model retrieval **Jan. 2019 - Jun. 2019**

- Retrieve the method of Continuous Normalizing Flows by using python and train the model on large-scale object images.
- Test results show that the model has very high accuracy on retrieving original images

***Participant,* ACM Mid-Atlantic Regional Programming Contest** **Nov. 2015, and Nov. 2016**

- Represent school at the ACM programming competition at Duke University.

SKILLS AND INTERESTS

- **Programming** – proficient in Python, proficient in Java, R, SQL, JavaScript, HTML, Matlab, Assembly Language
- **Area of Interest:** Automated software testing, large-scale text mining, software engineering, machine learning & deep learning

PUBLICATIONS

[1] **Xiao Ling**, Rishabh Agrawal, and Tim Menzies, *How Different is Test Case Prioritization for Open and Closed Source Projects?* **TSE (Accepted)**, 2021.