YI WU

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EDUCATION

Southern University of Science and Technology Sept. 2017 - Jun. 2021 (Expected)
Bachelor of Computer Science and Technology Shenzhen, China
Overall GPA: 3.79/4.0, Rank: 10/145 (Top 7%)

EXPERIENCE

University of California, Irvine Jul. 2020 – Sept. 2020
Remote Research Internship in Information and Computer Sciences

National University of Singapore Jul. 2019
NUS, School Of Computing, Summer Workshop Singapore

RESEARCH INTERESTS

My research interests are in software engineering, automated program repair, program analysis and software testing.

PUBLICATION

- [ASE SRC 2020] **Yi Wu. Anti-patterns for Java Automated Program Repair Tools.** In 35th IEEE/ACM International Conference on Automated Software Engineering (ASE '20), September 21–25, 2020, Virtual Event, Australia. [PDF] [Poster] ***Won First Prize***

RESEARCH EXPERIENCE

Anti-patterns for Java Automated Program Repair Tools Sept. 2019 - Dec. 2019
Supervisor: Shin Hwei Tan

· Performed a manual inspection on the plausible patches generated by Java automated repair tools.
· Implemented anti-patterns in jGenProg2 (Astor) and evaluated on Defects4J benchmark. Code
· The average repair time is reduced by 22.6 % and the number of generated plausible patches is reduced from 67 to 29 for 14 bugs in total, which provides evidence about the effectiveness of applying anti-patterns in future Java automated repair tools.

Recommending Negative Google Play Review for Android Apps Feb. 2020 – Present
Supervisor: Shin Hwei Tan

· Build a recommendation system that selects relevant Google Play reviews from similar apps for the app under test to find potential bugs.
· Search for similar apps based on common UI components and rank the negative reviews of the similar apps by quality and relevance.
· Automatically aggregate and summarize duplicate reviews to provide comprehensive bug information.

Applying Graph Neural Network to Data-flow Analysis Jul. 2020 – Sept. 2020
Supervisor: Joshua Garcia

· Explored the feasibility of using graph neural networks in solving data-flow analysis problems.
· Applied gated graph neural network to perform intra-procedure live variable analysis and reaching definition analysis.

NOTABLE COURSE PROJECT

GitHub FixIt Mar. 2020 - May. 2020

- Contributed to GitHub open-source projects by fixing bug/feature related issues.
- Implemented the feature of separating project dependencies in a different layer for WAR projects for Google Container Jib, to save time when rebuilding the container. Code
- Specify error message in AssertJ, a library providing rich typed assertions for Java. Code

Online Algorithm Store Code Sept. 2019 - Jan. 2020

- Created a web platform as an online store, supporting functions such as purchasing, selling and running algorithms to solve practical problems.
- Utilized Sqlite, Django, BootStrap and Docker for the development of the platform.

Influential Maximization Nov. 2019

- Implemented two stochastic diffusion models, the linear threshold model and the independent Cascade model, to estimate the max number of influenced nodes given a seed set.
- Implemented influence maximization via martingales algorithm and exploited the parallelism to efficiently search for a subset of nodes of a certain size in a network that can maximize the spread of influence.

SKILLS

Selected Core Course: Software Engineering (A+), Operating System (A+), Algorithm Design and Analysis (A), Computer Organization(A-), Computer Networks (A), Artificial Intelligence (A)

Programming Language: Java, Python, C/C++, SQL

STANDARD TESTS

TOFEL Test: 103 (29R, 28L, 21S, 25W) Oct.2020

TOFEL Test: 102 (30R, 26L, 22S, 24W) Sept.2020

AWARDS

1st Prize, ACM Student Research Competition, ASE 2020 Sept. 2020

2nd Prize, Annual Outstanding Students Scholarship, SUSTech Oct. 2020

2nd Prize, Annual Outstanding Students Scholarship, SUSTech Oct. 2019

3rd Prize, Annual Outstanding Students Scholarship, SUSTech Oct. 2018