

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 with a focus on software testing, automated program repair and program analysis.

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. [\[PDF\]](#) [\[Poster\]](#)

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.

Applying Graph Neural Network to Data-flow Analysis Jul. 2020 – Sept. 2020
Supervisor: [Joshua Garcia](#)

- Explore the feasibility of using graph neural networks in solving data-flow analysis problems.
- Applied gated graph neural network to perform live variable analysis and reaching definition analysis.
- Further goal is to execute more precise tasks such as value range analysis.



Recommending Negative Google Play Review for Android Apps Feb. 2020 – Present
Supervisor: [Shin Hwei Tan](#)

- Build a recommendation system that automatically 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.
- Aggregate and summarize duplicate reviews to provide comprehensive bug information.[in progress]

NOTABLE COURSE PROJECT

GitHub FixIt

Mar. 2020 - May. 2020

- Contributed to GitHub open source project 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](#)
- Specified 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, e.g. efficient dispatch in delivery.
- 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 (IMM) algorithm to find a subset of nodes of a certain size in a social network that could 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

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