

Yu Liu

Ph.D. Student

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sweetStreet

<http://sweetstreet.github.io>

Research Interests

Fusion of [software engineering](#) and [program language](#). Specific topics include testing and debugging.

Education

2019–present **Ph.D.** (in progress), *The University of Texas at Austin*.
Supervisor. Prof. Milos Gligoric

2015–2019 **B.Eng.**, *Nanjing University*.

Publications

- [3] **Yu Liu**, Pengyu Nie, Owolabi Legunsen, and Milos Gligoric. Inline tests. In *International Conference on Automated Software Engineering*, to appear. 2022.
- [2] **Yu Liu**, Rahulkrishna Yandrapally, Anup K. Kalia, Saurabh Sinha, Rachel Tzoref-Brill, and Ali Mesbah. Crawlable: Computing natural-language labels for ui test cases. In *Proceedings of the 3rd ACM/IEEE International Conference on Automation of Software Test, AST '22*, 103–114. 2022.
- [1] Jiyang Zhang, **Yu Liu**, Milos Gligoric, Owolabi Legunsen, and August Shi. Comparing and combining analysis-based and learning-based regression test selection. In *Proceedings of the 3rd ACM/IEEE International Conference on Automation of Software Test, AST '22*, 17–28. 2022.

Scholarships and Awards

- 2020 Grace Hopper Scholarships, Google
- 2019 Outstanding Graduates, Nanjing University

Service

- 2021–2022 ICSE external reviewer
- 2022 Teaching Assistant, Engineering Dynamic Program Analysis
- 2020 Teaching Assistant, Software Design and Implementation I
- PLDI 2022 Volunteer
- PRCV 2019 Volunteer
- 2016 Vice President, College Youth Association

Professional Experience

- May–Aug 2021 **Research Intern, IBM**, remotely from Austin.
- Generated summarization for UI tests with Probabilistic context-free grammar(PCFG) based on clickable and its context.
- May–Aug 2020 **Software Engineer Intern, Google**, remotely from Austin.
- Wrote integration tests to validate data consistency among UI, database and external service, which can be used for auto releasing.
 - Implemented a service module with frameworks based on **Guice** and **Protocol Buffers** to make RPC call from front end to stubby service.
- Jul–Aug 2019 **Software Engineer Intern, Huatai Securities**, Nanjing.
- Analyzed public sentiment by model of **TextCNN** and **Bert**. Embedded sentences into vectors with **TF-IDF**. Compared **cosine similarity** of vectors to realize **word sense disambiguation**. Established a dictionary of companies and real controllers. Adjusted importance of words according to their locations and frequency of appearance. Improved accuracy of recognizing negative information by 3%.

Open Source Contributions

- 2022 **I-Test**, a framework for writing inline tests - <https://github.com/EngineeringSoftware/inlinetest> (paper [3])