

Yu Liu

Ph.D. Student

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sweetStreet

<http://sweetstreet.github.io>

Education

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

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

Professional Experience

Jun–Sep 2023 **Software Engineer Intern**, *Google*, Mountain View

- Inferred important layers in ML model and highlighted these nodes in TensorFlow graph.
- Implemented a service module with frameworks based on **Scaffolding** and **Protocol Buffers** to populate important layers to front end.

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 for auto releases to validate data consistency among UI, database and external service.
- Implemented a service module with frameworks based on **Guice** and **Protocol Buffers** to make RPC 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.

Publications

- [6] **Yu Liu**, Pengyu Nie, Anna Guo, Milos Gligoric, and Owolabi Legunsen. Extracting inline tests from unit tests. In *ISSTA*, 1–10. 2023.
- [5] **Yu Liu**, Jiyang Zhang, Pengyu Nie, Milos Gligoric, and Owolabi Legunsen. More precise regression test selection via reasoning about semantics-modifying changes. In *ISSTA*, 1–10. 2023. This paper won an **ACM SIGSOFT Distinguished Paper Award**.
- [4] **Yu Liu**, Zachary Thurston, Alan Han, Pengyu Nie, Milos Gligoric, and Owolabi Legunsen. pytest-inline: An inline testing tool for python. In *ICSE Demo*, 1–4. 2023.
- [3] **Yu Liu**, Pengyu Nie, Owolabi Legunsen, and Milos Gligoric. Inline tests. In *ASE*, 1–11. 2022.
- [2] **Yu Liu**, Rahulkrishna Yandrapally, Anup K. Kalia, Saurabh Sinha, Rachel Tzoref-

Brill, and Ali Mesbah. Crawl-label: Computing natural-language labels for UI test cases. In *AST*, 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 *AST*, 17–28. 2022.

Scholarships and Awards

- 2023 ACM SIGSOFT Distinguished Paper Award for [5] at ISSTA'23
- 2023 Graduate School Continuing Fellowship, The University of Texas at Austin
- 2020 Grace Hopper Scholarships, Google
- 2019 Outstanding Graduates, Nanjing University

Service

- ICSE 22,21 Sub-reviewer, International Conference on Software Engineering
- 2022 Volunteer, ISSS at UT Austin
- PLDI 2022 Volunteer, Programming Language Design and Implementation Conference
- 2016 Vice President, College Youth Association

Open Source Contributions

- 2023 **Exli**, a tool for extracting inline tests from unit tests - <https://github.com/EngineeringSoftware/exli> (paper [6])
- 2023 **FineEkstazi**, an optimized regression testing selection tool based on Ekstazi - <https://github.com/EngineeringSoftware/fine-ekstazi> (paper [5])
- 2023 **FineSTARTS**, an optimized regression testing selection tool based on STARTS - <https://github.com/EngineeringSoftware/fine-starts> (paper [5])
- 2022 **pytest-inline**, a Pytest plugin for inline testing - <https://github.com/pytest-dev/pytest-inline> (paper [4])
- 2022 **I-Test**, a Java framework for writing inline tests - <https://github.com/EngineeringSoftware/inlinetest> (paper [3])