Xiao Cheng

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Supervisor: A/Prof. Yulei Sui

Education

- **University of New South Wales (UNSW)** — Sydney, Australia
  Ph.D. - Computer Science and Engineering; — *2023 - Present*
- **University Of Technology Sydney** — Sydney, Australia
  Ph.D. - Computer Science and Engineering; — *2021 - 2023*
- **Beijing University of Posts and Telecommunications** — Beijing, China
  Bachelor & Research Master - Engineering; — *2014 - 2021*

Publications

- **(TDSC'22, CCF-A)**: **Xiao Cheng**, Xu Nie, Ningke Li, Haoyu Wang, Zheng Zheng and Yulei Sui. 2022. How About Bug-Triggering Paths? - Understanding and Characterizing Learning-Based Vulnerability Detectors. IEEE Transactions on Dependable and Secure Computing. DOI: https://doi.org/10.1109/TDSC.2022.3192419
- **(ISSTA'22, CCF-A)**: **Xiao Cheng**, Guanqin Zhang, Haoyu Wang, and Yulei Sui. 2022. Path-Sensitive Code Embedding via Contrastive Learning for Software Vulnerability Detection. ACM SIGSOFT International Symposium on Software Testing and Analysis. DOI: https://dl.acm.org/doi/abs/10.1145/3533767.3534371
- **(TOSEM'21, CCF-A)**: **Xiao Cheng**, Haoyu Wang, Jiayi Hua, Guoai Xu, and Yulei Sui. 2021. DeepWukong: Statically Detecting Software Vulnerabilities Using Deep Graph Neural Network. ACM Trans. Softw. Eng. Methodol. DOI: https://doi.org/10.1145/3436877
- **(OOPSLA'20, CCF-A, ACM SIGSOFT Distinguished Paper Award)**: Yulei Sui, **Xiao Cheng**, Guanqin Zhang, and Haoyu Wang. 2020. Flow2Vec: value-flow-based precise code embedding. Proc. ACM Program. Lang. 4, OOPSLA. DOI: https://doi.org/10.1145/3428301
- **(ICECCS'19, CORE-A)**: **Xiao Cheng**, Haoyu Wang, Jiayi Hua, Miao Zhang, Guoai Xu, Li Yi, Yulei Sui. 2019. Static Detection of Control-Flow-Related Vulnerabilities Using Graph Embedding. 24th International Conference on Engineering of Complex Computer Systems. DOI: https://doi.org/10.1109/ICECCS.2019.00012.

Teaching Experience

- **41128 Software Analysis Studio** — On campus
  Subject lecturer — *Jan 2022 - Present*
  - **Teaching software analysis**: Software Analysis a.k.a Program analysis is the process of automatically analyzing the behavior of computer programs such as correctness, robustness, safety and security.
- **Software Analysis, SSTC Software Engineering Studio** — Remote
  Subject coordinator and lecturer — *Jan 2022 - Present*

Services

- Artifact Evaluation Committee of ISSTA 2023, SAS 2023, FormaliSE 2023
- Reviewer of ASE, FSE, ICSE, OOPSLA, TOSEM, SAS, ISSRE, SCAM, CSUR, SCAM

Honors and Awards

- 2022, Apple Scholars in AI/ML PhD fellowship nomination
- 2021 International Research Training Program Scholarship (IRTP) Offer
- NASAC prototype competition third prize (2020)
- ACM SIGSOFT Distinguished Paper Award (2019)
- 2016 Interdisciplinary Contest in Modeling, Honorable Mention

Skills Summary

- **Languages**: Python, C++, Bash, JAVA, Objective-C
- **Frameworks**: Scikit, Pytorch, PyTorch Geometric, NLTK, Keras, Django
- **Tools**: Docker, GIT, PostgreSQL, MySQL, SQLite
- **Platforms**: Linux, Web, Windows, Alibaba Cloud
- **Soft Skills**: Leadership, Event Management, Writing, Public Speaking, Time Management