

# Jieke Shi

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## 📖 Research Interests and Past Works

### ♣ Language Model of Code:

Studying and improving the efficiency and robustness properties of language models trained on source code.

### ♠ AI Software Testing:

Revealing robustness and fairness issues in AI systems through comprehensive testing or adversarial attacks.

### ■ Software Text Analytics:

Mining insights & automating software-related tasks through analyzing textual data in software engineering.

[C]: Full Research Paper in Conference

[S]: Short Paper

[T]: Tool Demo Paper

## Highlights of Publications (Awarded, Nominated, Highly Cited)

- [C7] ♣ **Jieke Shi**, Zhou Yang, Bowen Xu, Hong Jin Kang, and David Lo. “Compressing Pre-trained Models of Code into 3 MB.” *The 37th IEEE/ACM International Conference on Automated Software Engineering (ASE 2022, CORE Ranking A\*)*. [PDF][DOI][Code]  
🏆 **Nominated for ACM SIGSOFT Distinguished Paper Award**
- [C6] ♠ Chen Gong, Zhou Yang, Yunpeng Bai, **Jieke Shi**, Arunesh Sinha, Bowen Xu, David Lo, Xinwen Hou, and Guoliang Fan. “Curiosity-Driven and Victim-Aware Adversarial Policies.” *The 39th Annual Computer Security Applications Conference (ACSAC 2022, CORE Ranking A)*. [PDF][DOI][Code]  
🏆 **Won Honorable Mention Award**
- [C5] ♠ Zhou Yang, **Jieke Shi**, Muhammad Hilmi Asyrofi, and David Lo. “Revisiting Neuron Coverage Metrics and Quality of Deep Neural Networks.” *The 29th IEEE International Conference on Software Analysis, Evolution and Reengineering (SANER 2022, CORE Ranking A)*. [PDF][DOI][Code]  
🔥 **Most-cited paper (17 citations) in RENE Track at the time of writing**

## Other Publications

- [C4] ■ Zhou Yang, Chenyu Wang, **Jieke Shi**, Thong Hoang, Pavneet Kochhar, Qinghua Lu, Zhenchang Xing, and David Lo. “What Do Users Ask in Open-Source AI Repositories? An Empirical Study of GitHub Issues.” *The 20th IEEE International Conference on Mining Software Repositories (MSR 2023, CORE Ranking A)*. [PDF][Code]
- [C3] ■ Chengran Yang, Bowen Xu, Ferdian Thung, Yucen Shi, Ting Zhang, Zhou Yang, Xin Zhou, **Jieke Shi**, Junda He, DongGyun Han, and David Lo. “Answer Summarization for Technical Queries: Benchmark and New Approach.” *The 37th IEEE/ACM International Conference on Automated Software Engineering (ASE 2022, CORE Ranking A\*)*. [PDF][DOI][Code]
- [S3] ♣ **Jieke Shi**, Zhou Yang, Junda He, Bowen Xu, and David Lo. “Can Identifier Splitting Improve Open-Vocabulary Language Model of Code?” *The 29th IEEE International Conference on Software Analysis, Evolution and Reengineering (SANER 2022, CORE Ranking A)*. [PDF][Poster][DOI][Code]
- [C2] ■ Ratnadira Widayarsi, Stefanus Agus Haryono, Ferdian Thung, **Jieke Shi**, Constance Tan, Fiona Wee, Jack Phan, and David Lo. “On the Influence of Biases in Bug Localization: Evaluation and Benchmark.” *The 29th IEEE International Conference on Software Analysis, Evolution and Reengineering (SANER 2022, CORE Ranking A)*. [PDF][DOI]
- [C1] ♣ Zhou Yang, **Jieke Shi**, Junda He, and David Lo. “Natural Attack for Pre-trained Models of Code.” *The 44th IEEE/ACM International Conference on Software Engineering (ICSE 2022, CORE Ranking A\*)*. [PDF][DOI][Code]
- [S2] ♠ Zhou Yang, Harshit Jain, **Jieke Shi**, Muhammad Hilmi Asyrofi, and David Lo. “BiasHeal: On-the-Fly Black-Box Healing of Bias in Sentiment Analysis Systems.” *The 37th IEEE International Conference on Software Maintenance and Evolution (ICSME 2021, CORE Ranking A)*. [PDF][DOI][Code]

- [S1] ♠ Muhammad Hilmi Asyrofi, Zhou Yang, Jieke Shi, Chu Wei Quan, and David Lo. “Can Differential Testing Improve Automatic Speech Recognition Systems?” *The 37th IEEE International Conference on Software Maintenance and Evolution (ICSME 2021, CORE Ranking A)*. [PDF][DOI][Code]
- [T1] ■ Zhou Yang\*, Jieke Shi\*, Shaowei Wang, and David Lo. “IncBL: Incremental Bug Localization.” *The 36th IEEE/ACM International Conference on Automated Software Engineering (\*Equal contributions, ASE 2021, CORE Ranking A\*)*. [PDF][Poster][DOI][Code]

## Education & Work Experience

<b>Singapore Management University</b> • School of Computing and Information Systems <i>Ph.D. Student</i> , Supervised by <a href="#">Prof. David Lo</a>	Singapore 2022.08-Present
<b>Singapore Management University</b> • School of Computing and Information Systems <i>Research Engineer</i> , Supervised by <a href="#">Prof. David Lo</a>	Singapore 2021.06-Present
<b>Chinese Academy of Sciences</b> • Institute of Computing Technology <i>Research Assistant Intern</i> , Supervised <a href="#">Dr. Shi Wang</a>	Beijing, China 2020.07-2021.04
<b>Yangzhou University</b> • School of Information Engineering <i>B.Eng., Electronic and Information Engineering</i> , Supervised by Prof. Junwu Zhu	Yangzhou, China 2016.09-2020.06

## Honors & Awards

### Paper Awards

- › **Honorable Mention Award** (official, top 4 papers out of 303 submissions) for our ACSAC 2022 paper entitled “Curiosity-Driven and Victim-Aware Adversarial Policies”
- › **ACM SIGSOFT Distinguished Paper Nominee** (unofficial, top 15 papers out of 527 submissions) for our ASE 2022 paper entitled “Compressing Pre-trained Models of Code into 3 MB”

### Scholarships

- › **National Encouragement Scholarship**, from Ministry of Education of the People’s Republic of China, 2019
- › **The Second Level Presidential Scholarship**, from Yangzhou University, China, 2018
- › **The First Level Presidential Scholarship**, from Yangzhou University, China, 2017

## Professional Services

### Invited Reviewer

- › Neurocomputing (Software Section) Journal, 2021 & 2022
- › Robotics and Autonomous Systems Journal, 2021
- › Sub-reviewer of ICSE 2022, ICECCS 2022, CAIN 2022, SE4RAI 2022, IJCAI 2022, ASE 2022, SANER 2023, FSE 2023, ASE 2023, ICSE 2024 conferences.