Pu (Luke) Yi

Stanford University, US
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Education

Stanford University **Sep. 2022 – Present**
PhD in Computer Science *Stanford, CA, US*

Stanford University **Sep. 2022 – Sep. 2024**
Master in Computer Science *Stanford, CA, US*

Peking University **Sep. 2018 – June 2022**
Bachelor of Science in Computer Science (Turing Class) *Beijing, China*

- 2021 Award for Excellent Research
- 2021 Huirong Li Scholarship
- 2020 John Hopcroft Scholarship

Publications

1. **Pu (Luke) Yi**, Yifan Yang, Chae Young Lee, and Sara Achour
Exchangeability in Neural Network Architectures and its Application to Dynamic Pruning
Under Review

2. **Pu (Luke) Yi**, Yifan Yang, Chae Young Lee, and Sara Achour
Early Termination for Hyperdimensional Computing Using Inferential Statistics
30th International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS 2025), pages 342-360, Rotterdam, The Netherlands, March 2025

3. Hao Wang, **Pu (Luke) Yi**, Jeremias Parladorio, Wing Lam, Darko Marinov, and Tao Xie
Hierarchy-Aware Regression Test Prioritization
35th IEEE International Symposium on Software Reliability Engineering (ISSRE 2024), pages 343-354, Tsukuba, Japan, October 2024

4. Cyrille Artho, Pavel Parízek, Daohan Qu, Varadraj Galgali, and **Pu (Luke) Yi**
JPF: From 2003 to 2023
30th International Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS 2024), pages 3-22, Luxembourg City, Luxembourg, April 2024

5. Anjiang Wei, Akash Levy, **Pu (Luke) Yi**, Robert M Radway, Priyanka Raina, Subhasish Mitra, and Sara Achour
PBA: Percentile-Based Level Allocation for Multiple-Bits-Per-Cell RRAM
42nd IEEE/ACM International Conference on Computer Aided Design (ICCAD 2023), pages 1-9, San Francisco, CA, USC, October 2023

6. **Pu (Luke) Yi** and Sara Achour
Hardware-Aware Static Optimization of Hyperdimensional Computations
38th ACM SIGPLAN International Conference on Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA 2023), pages 1-30, Cascais, Portugal, October 2023

7. Anjiang Wei, **Pu Yi**, Zhengxi Li, Tao Xie, Darko Marinov, and Wing Lam
Preempting Flaky Tests via Non-Idempotent-Outcome Tests
44th International Conference on Software Engineering (ICSE 2022), pages 1730-1742, Pittsburgh, PA, USA, May 2022

8. Yikai Zhao, Yubo Zhang, **Pu Yi**, Tong Yang, Bin Cui, and Uhlig Steve
The Stair Sketch: Bringing more Clarity to Memorize Recent Events
38th IEEE International Conference on Data Engineering (ICDE 2022), pages 123-130, Virtual Conference, May 2022

9. **Pu Yi**, Hao Wang, Tao Xie, Darko Marinov, and Wing Lam
A Theoretical Analysis of Random Regression Test Prioritization
28th International Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS 2022), pages 217-235, Munich, Germany, April 2022

10. Wenxi Wang, **Pu Yi**, Sarfraz Khurshid, and Darko Marinov
Initial Results on Counting Test Orders for Order-Dependent Flaky Tests using Alloy
33rd IFIP International Conference on Testing Software and Systems (ICTSS 2021), pages 123-130 (short paper), Virtual Conference, November 2021

11. **Pu Yi**, Anjiang Wei, Wing Lam, Tao Xie, and Darko Marinov
Finding Polluter Tests Using Java PathFinder
ACM SIGSOFT Software Engineering Notes 46, 2021
(SEN 2021), 46(3), pages 37-41, July 2021
(Extended paper of abstract presented at Java PathFinder Online Day (JPF 2020), Virtual Workshop, November 2020)

12. Anjiang Wei, **Pu Yi**, Tao Xie, Darko Marinov, and Wing Lam
Probabilistic and Systematic Coverage of Consecutive Test-Method Pairs for Detecting Order-Dependent Flaky Tests
27th International Conference on Tools and Algorithms for the Construction and Analysis of Systems
(TACAS 2021), pages 270-287, Virtual Conference, March 2021

Presentations

- *Exchangeability in Neural Network Architectures and its Applications to Dynamic Pruning*, Stanford Center for Portable Accelerated Learning (Stanford PORTAL 2025)
- *Early Termination for Hyperdimensional Computing Using Inferential Statistics*, 30th International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS 2025)
- *Early Termination for Hyperdimensional Computing Using Inferential Statistics* (60 min), Online Speakers' Corner on Vector Symbolic Architectures and Hyperdimensional Computing (VSAONLINE)
- *Hardware-Aware Static Optimization of Hyperdimensional Computations* (60 min), Online Speakers' Corner on Vector Symbolic Architectures and Hyperdimensional Computing (VSAONLINE)
- *A Theoretical Analysis of Random Regression Test Prioritization*, 28th International Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS 2022)
- *Systematic Bit-Flip Fault Injection and Exploration using Java PathFinder*, Java PathFinder Online Day (JPF 2021)
- *Finding Polluter Tests Using Java PathFinder*, Java PathFinder Online Day (JPF 2020)

Service

- Artifact Evaluation Committee, IISWC 2024, SOSP 2024, EuroSys 2025, ASPLOS 2025
- Student Volunteer, ASE 2021, ASE 2020
- Co-reviewer, ICSE SEIP 2022, ASE 2021, ISSTA 2021

Skills

- **Extensive programming experience**
C, C++, Java, Python, Bash, JavaScript
Contributor of the Java PathFinder project - wrote two extensions PolDet and Bit-Flip injection engine that were merged to the master branch (the Bit-Flip injection engine was an accepted Google Summer of Code (GSoC) project)
Contributor of the gem5 architecture simulator project - fixed a bug in the 3-level cache simulation
2019 Second Prize in Programming Contest at Peking University
2017 Second Prize in National Olympiad in Informatics, China