

# PU (LUKE) YI

Stanford University, US

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## Education

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### Stanford University

*PhD in Computer Science*

Sep. 2022 – Present

*Stanford, CA, US*

### Stanford University

*Master in Computer Science*

Sep. 2022 – Sep. 2024

*Stanford, CA, US*

### Peking University

*Bachelor of Science in Computer Science (Turing Class)*

Sep. 2018 – June 2022

*Beijing, China*

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

## Publications

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1. **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
2. 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
3. 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
4. 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
5. **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
6. 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
7. 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
8. **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
9. 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

10. **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)
11. 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

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- *Hardware-Aware Static Optimization of Hyperdimensional Computations*, 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

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- 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

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- **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