Pu Yi

Peking University, China

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Education

Peking University **Sep. 2018 – June 2022 (expected)**

Bachelor of Science in Computer Science (Turing Class) *Being, China*

- GAP: 3.71/4 (87.6/100), ranking top 20% in the department
- 2020 John Hopcroft Scholarship

Relevant Coursework

- Introduction to Computing (A) (Honor Track)
- Mathematical Analysis I-III
- Advanced Algebra I-II
- Discrete Mathematics and Structures
- Introduction to Artificial Intelligence
- Practice of Programming in C&C++
- Mathematical Foundations for the Information Age
- Introduction to Computer Systems
- Probability Theory and Statistics (A)
- Data Structure and Algorithms (A) (Honor Track)
- Study and Practice on Topics of Frontier Computing I-II
- Information Theory
- Introduction to the Theory of Computation
- Machine Learning
- Game Theory and Society
- Operating System
- Software Analysis
- Introduction to Logic
- Practice of Data Structure and Algorithm
- Introduction to Visualization and Visual Computing
- Developer Testing Techniques and Practices
- Computer Architectures
- Technology Innovation and Entrepreneurship
- Cognitive/Computer Science of the Conscious Turing Machine

Research Experience

Combating Flaky Tests. Advisors: Profs. Darko Marinov and Tao Xie **July 2020 – Present**

- Probabilistic analysis and improvement of flaky tests detection
- Extending Java Pathfinder to detect polluter tests
- Counting Test Orders for Order-Dependent Flaky Tests using Alloy

Bit-Flip Fault Injection. Advisors: Profs. Cyrille Artho and Pavel Parízek **July 2021 – Present**

- Systematic Bit-Flip Fault Injection and Exploration using Java PathFinder (Project Website)

Publications

- 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, Mar. 2021

- **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)

- 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 to appear, Virtual Conference, November 2021

Submitted Papers

- **Pu Yi**, Jeremias Parladorio, Hao Wang, Tao Xie, Darko Marinov, and Wing Lam
  Details omitted because of double blind reviewing

- Anjiang Wei, **Pu Yi**, Zhengxi Li, Tao Xie, Darko Marinov, and Wing Lam
  Details omitted because of double blind reviewing

Service

- Student Volunteer, ASE 2020
- Co-reviewer, ISSTA 2021
- Co-reviewer, ASE 2021

Skills

- **Extensive programming experience**
  Solid expertise on C, C++, a good command of Java, Python, Bash, JavaScript
  2017 Second Award in National Olympiad in Informatics, China
  2019 Second Award in Programming Contest at Peking University
  Contributor of the Java PathFinder project, wrote two extensions PolDet and Bit-Flip Injector that were merged to the master branch (the Bit-Flip Injector is an accepted Google Summer of Code (GSoC) project)
- **Good leadership, communication and organizational skills**
  Serving as the president of Peking University Student Algorithm Association
- **Proficiency in English**
  Ability to write papers and communicate with English-speaking collaborators fluently
  TOEFL score: 108 with 23 in speaking