Pu Yi

Peking University, China

📞 (+86) 188-0141-4922 ✉ lukeyi@pku.edu.cn � y553546436

Education

Peking University   **Sep. 2018 – June 2022 (expected)**
Bachelor of Science in Computer Science (Turing Class)   *Being, China*
- GPA: 3.71/4 (87.6/100), ranking top 20% in the department
- 2020 John Hopcroft Scholarship
- 2021 Huirong Li Scholarship

Research Experience

Data Stream Processing. Advisor: Prof. Tong Yang   **Oct 2019 – July 2020**
- Design of efficient data structures that memorize recent events with higher accuracy (resulted in publication 1)

Combating Flaky Tests. Advisors: Profs. Darko Marinov and Tao Xie   **July 2020 – Present**
- Probabilistic analysis and improvement of flaky tests detection (resulted in publication 2)
- Extending Java Pathfinder to detect polluter tests (resulted in publication 3)
- Counting Test Orders for Order-Dependent Flaky Tests using Alloy (resulted in publication 4)
- Some details omitted due to relevant submission(s) under double blind review (resulted in submission 5)

Regression Test Prioritization. Advisors: Profs. Darko Marinov and Tao Xie   **April 2021 – Present**
- Theoretically analyzed random regression test prioritization (resulted in submission 6)
- Some details omitted due to relevant submission(s) under double blind review (resulted in submission 7)

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

1. 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 to appear, Virtual Conference, May 2022

2. 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

3. **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)

4. 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

5. Details omitted due to double blind reviewing
   Anjiang Wei, **Pu Yi**, Zhengxi Li, Tao Xie, Darko Marinov, and Wing Lam

6. A Theoretical Analysis of Random Regression Test Prioritization
   Under single blind review in TACAS 2022
   Pu Yi, Hao Wang, Tao Xie, Darko Marinov, and Wing Lam

7. Details omitted due to double blind reviewing
   Pu Yi, Jeremias Parladorio, Hao Wang, Tao Xie, Darko Marinov, and Wing Lam

Service

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

Skills

- **Extensive programming experience**
  C, C++, 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 injection engine that were merged to the master branch (the Bit-Flip injection engine is an accepted Google Summer of Code (GSoC) project)

- **Proficiency in English**
  Ability to write papers and communicate with English-speaking collaborators fluently
  TOEFL score: 108 (23 in speaking); GRE score: 336 (162V, 170Q, 4A)