

PENGYUE JIANG

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RESEARCH INTERESTS

My research interests lie in the intersection of software engineering and applied formal methods. More specifically, software testing, program analysis and runtime verification.

EDUCATION

Cornell University

Ph.D. in Computer Science

Advisor: Prof. [Owolabi Legunsen](#)

August 2023 – Present

Ithaca, NY

Anticipated graduation date: August 2027

University of Illinois Urbana-Champaign (UIUC)

B.S. in Computer Science + Philosophy

Grade Point Average: 3.95/4.00

August 2019 – May 2023

Champaign, IL

AWARDS

- Veena & Induprakas Keri Ph.D. Fellowship at Cornell for 2023-2024
- John R. Pasta Outstanding Undergraduate Award at UIUC for 2022 (the only recipient of the year based on academic merit)
- Dean's List at UIUC for Fall 2019, Spring 2020, Fall 2020, Fall 2021, and Spring 2022 (top 20% by GPA)

PUBLICATIONS

1. Block Tests
Kevin Guan, **Pengyue Jiang**, Milos Gligoric, and Owolabi Legunsen
ACM SIGPLAN International Conference on Systems, Programming, Languages and Applications
(OOPSLA 2026), pages 2044-2072, Oakland, CA, U.S.A., October 2026
2. Automated Inline-Test Generation without Relying on Method-Level Unit Tests
Pengyue Jiang, Yu Liu, Anna Guo, Milos Gligoric, and Owolabi Legunsen
European Conference on Object-Oriented Programming
(ECOOP 2026), pages to-appear, Brussels, Belgium, June-July 2026
3. Fine-Grained Analyses for Evolution-Aware Runtime Verification
Pengyue Jiang, Kevin Guan, Mahdi Khosravi, Moustafa Ismail, Marcelo d'Amorim, and Owolabi Legunsen
48th International Conference on Software Engineering
(ICSE 2026), pages 3523-3535, Rio de Janeiro, Brazil, April 2026
4. eMOP: A Maven Plugin for Evolution-Aware Runtime Verification
Ayaka Yorihiro, **Pengyue Jiang**, Valeria Marqués, Benjamin Carleton, and Owolabi Legunsen
23rd International Conference on Runtime Verification, Tool Demonstration
(RV 2023), pages 363-375, Thessaloniki, Greece, October 2023

PRESENTATIONS

- “Automated Inline-Test Generation without Relying on Method-Level Unit Tests”, European Conference on Object-Oriented Programming (ECOOP 2026), Brussels, Belgium July 2, 2026
- “How Good Are the Specs? A Study of the Bug-Finding Effectiveness of Existing Java API Specifications”, Guest Lecture at Cornell's CS 6156: Runtime Verification, Cornell University, Ithaca, NY, U.S.A. February 24, 2025
- “eMOP: A Maven Plugin for Evolution-Aware Runtime Verification”, 23rd International Conference on Runtime Verification (RV 2023), Thessaloniki, Greece October 3, 2023

TEACHING EXPERIENCE

Teaching Assistant for CS5154: Software Testing at Cornell (80 students) • Course infrastructure, exam grading, weekly office hours.	August – December 2026
Teaching Assistant for CS5150: Software Engineering at Cornell (99 students) • Course infrastructure, exam grading, weekly office hours.	January – May 2025
Teaching Assistant for CS4414: Systems Programming at Cornell (246 students) • Course infrastructure, exam grading, weekly office hours.	August – December 2024
Course Assistant for CS126: Software Design Studio at UIUC (242 students) • Weekly code review sessions and programming assignment grading.	January – May 2022
Course Assistant for CS241: System Programming at UIUC (319 students) • Weekly office hours and laboratory sections, maintaining <u>online course material</u>.	September – December 2021
Course Assistant for CS125: Introduction to Computer Science at UIUC (Approx. 1100 students) • Weekly office hours and laboratory sections.	January – May 2020

COURSEWORK

Electives: Formal Software Development Methods, Database Systems, Software Engineering, Bioinformatics, Software Testing, Runtime Verification
Machine Learning: Applied Machine Learning, Natural Language Processing, Software Engineering in the Era of Machine Learning
Robotics: Foundations of Robotics, Formal Methods for Robotics

TECHNICAL SKILLS

Programming Languages: Java, C++, C, Python3, OCaml, shell script
Developer Tools: Visual Studio Code, vim, IntelliJ IDEA, CLion, Android Studio
Software Engineering Tools: Maven, JavaParser, Randoop, EvoSuite, universal mutator, JUnit
Technologies: Git, Markdown, $\text{\LaTeX}$, Neo4j, GitHub Actions, Docker
Web Development: HTML/CSS, JavaScript, Bootstrap, Vue.js, Express, SQL, MongoDB

OPEN-SOURCE CONTRIBUTIONS

eMOP <i>Java, Maven</i> • A Maven plugin for evolution-aware runtime verification during software testing. • Source code: https://github.com/SoftEngResearch/emop	2023 – Present
Sudoku for Programmer <i>Java, Android Studio</i> • A 16×16 hexadecimal Sudoku puzzle game for Android. Published on Google Play Store before. • Source code: https://github.com/ckouder/SudokuForProgrammer	December 2019 – February 2020