Ao Li

TCS Hall, 4665 Forbes Ave, Pittsburgh, PA 15213 | aoli@cs.cmu.edu | (724) 469-1577

aoli.al

Education

Carnegie Mellon University, Ph.D. Candidate in Computer Science – Pittsburgh, USA   Sept 2020 – present

University of Toronto, Master of Science in Computer Science – Toronto, Canada   Feb 2020

Simon Fraser University, Bachelor of Science in Computer Science – Vancouver, Canada   June 2018

Zhejiang University, Bachelor of Engineer in Computer Science – Hangzhou, China   June 2018

Publications

Feedback-guided Adaptive Testing of Distributed Systems Designs   2026
Ao Li, Ankush Desai, Rohan Padhye
NSDI 2026

Fray: An Efficient General-Purpose Concurrency Testing Platform for the JVM   2025
Ao Li, Byeongjee Kang, Vasudev Vikram, Isabella Laybourn, Samvid Dharanikota, Shrey Tiwari, Rohan Padhye
OOPSLA 2025

The Havoc Paradox in Generator-Based Fuzzing   2025
Ao Li, Madonna Huang, Vasudev Vikram, Caroline Lemieux, Rohan Padhye
TOSEM 2025

SPIDER: A Practical Fuzzing Framework to Uncover Stateful Performance Issues in SDN Controllers   2025
Ao Li, Rohan Padhye, Vyas Sekar
ICST 2025

It's About Time: An Empirical Study of Date and Time Bugs in Open-Source Python Software   2025
Shrey Tiwari, Serena Chen, Alexander Joukov, Peter Vandervelde, **Ao Li**, Rohan Padhye
MSR 2025 **ACM SIGSOFT Distinguished Paper Award**

The Havoc Paradox in Generator-Based Fuzzing (Registered Report)   2024
Ao Li, Madonna Huang, Caroline Lemieux, Rohan Padhye
FUZZING 2024

ExChain: Exception Dependency Analysis for Root Cause Diagnosis   2024
Ao Li, Shan Lu, Suman Nath, Rohan Padhye, Vyas Sekar
NSDI 2024

Guiding Greybox Fuzzing with Mutation Testing   2023
Vasudev Vikram, Isabella Laybourn, **Ao Li**, Nicole Nair, Kelton OBrien, Rafaello Sanna, Rohan Padhye
ISSTA 2023 **ACM SIGSOFT Distinguished Paper Award**

Automatic Horizontal Fusion for GPU Kernels   2022
Ao Li, Bojian Zheng, Gennady Pekhimenko, Fan Long
CGO 2022

Watching the watchmen: Least privilege for managed network services   2021
Guyue Liu, **Ao Li**, Christopher Canel, Vyas Sekar
Hotnets 2021

Securing Smart Contract with Runtime Validation   2020
Ao Li, Jemin Andrew Choi, Fan Long
PLDI 2020

Polarimetric Dense Monocular SLAM   2018
Luwei Yang, Feitong Tan, **Ao Li**, Zhaopeng Cui, Yasutaka Furukawa, Ping Tan
CVPR 2018 (Oral)

Patents

Managing network configuration through network path analysis   2022
Patent number: US11245614

Augmented Imaging Assistance For Visual Impairment   2016
Patent number: US20170286383

Work Experience

Research Intern, Antithesis – Vienna   May 2025 – Aug 2025

Applied Scientist Intern, Amazon – Santa Clara   May 2023 – Aug 2023

Research Intern, Microsoft Research – Remote   May 2022 – Aug 2022

Software Engineer Intern, Amazon – Remote   May 2020 – Aug 2020

Software Engineer Intern, Google – Mountain View   May 2017 – Aug 2017

Software Engineer Intern, Google – Waterloo   May 2016 – Aug 2016

Software Engineer Intern, Microsoft – Vancouver   Jan 2016 – May 2016

Teaching

Teaching Assistant, Carnegie Mellon University – Pittsburgh   Jan 2024 – Apr 2024
Foundations of Software Engineering

Teaching Assistant, Carnegie Mellon University – Pittsburgh   Jan 2023 – Apr 2023
Fantastic Bugs & How to Find Them

Head Teaching Assistant, University of Toronto – Toronto   Sept 2019 – Dec 2019
Compilers and Interpreters

Teaching Assistant, University of Toronto – Toronto   Jan 2019 – Apr 2019
Programming Language

Teaching Assistant, Simon Fraser University – Vancouver   Jan 2018 – Apr 2018
Principles of Compiler Design