Anton Xue

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Philadelphia, PA 19104

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Interests
Dynamical systems, programming languages, formal methods
Mathematical analysis, linear algebra, combinatorics

Education

Ph.D. Computer and Information Science — 08/2019 – Present
University of Pennsylvania

B.S. Mathematics (Intensive) and Computer Science — 08/2015 – 05/2019
Yale University

Work Experience

Research Intern — 06/2019 – 08/2019
Nokia Bell Labs

Research Assistant — 09/2015 – 05/2019
Yale University Department of Computer Science

Research Intern — 05/2018 – 08/2018
Harvard John A. Paulson School of Engineering and Applied Sciences

Research Intern — 05/2017 – 08/2017
Max Planck Institute for Software Systems

Software Engineering Intern — 05/2014 – 08/2015
Harvard Medical School

Awards and Honors

University of Pennsylvania ENIAC Fellowship — 08/2019

Yale Computer Science Award — 05/2019

National Science Foundation Graduate Research Fellowship — 04/2019

Yale College Freshman Summer Research Fellowship — 04/2016

Conference Publications

Data-Driven System Level Synthesis — 12/2020
L4DC 2021

A Self-Certifying Compilation Framework for WebAssembly — 01/2021
VMCAI 2021

Lazy Counterfactual Symbolic Execution — 06/2019
PLDI 2019

Workshop Publications

G2Q: Haskell Constraint Solving — 08/2019
Haskell Symposium 2019

Presentations

Towards a Self-Certifying Compiler for WebAssembly — 12/2019
IBM Programming Language Day 2019

Towards a Self-Certifying Compiler for WebAssembly 10/2019
FMCAD 2019 Student Forum

Towards the Formalization and Analysis of R 11/2018
FMCAD 2018 Student Forum

Building a Symbolic Execution Engine for Haskell 11/2017
FMCAD 2017 Student Forum

Building a Symbolic Execution Engine for Haskell 08/2017
TAPAS 2017

A Symbolic Execution Framework for Haskell 01/2017
POPL 2017 Student Research Competition

Teaching

Teaching Assistant 05/2020 – 12/2020
CIS 515 Fundamentals of Linear Algebra and Optimization, Fall/2020, Spring/2021
CIS 160 Mathematical Foundations of Computer Science, Summer/2020
University of Pennsylvania

Teaching Assistant 09/2016 – 05/2019
MATH 305 Real Analysis (Course Grader), Spring/2019
CPSC 202 Mathematical Tools for Computer Science, Fall/2016, Fall/2017, Fall/2018
CPSC 366 Intensive Algorithms, Spring/2018
CPSC 365 Design and Analysis of Algorithms, Spring/2017
Yale University

Community

Artifact Evaluation Committee 06/2021
SAS 2021

Reviewer 03/2021
IEEE LCSS 2021

Artifact Evaluation Committee 03/2021
PLDI 2021

Artifact Evaluation Committee 03/2020
PLDI 2020

Head Student Volunteer 07/2019
CAV 2019

Student Volunteer 06/2019
PLDI 2019

Department Student Advisory Committee 08/2017 – 05/2018
Yale University Computer Science Department

Student Volunteer 07/2017
CAV 2017

Software

Self-Certified Optimizer for WebAssembly
`https://github.com/nokia/web-assembly-self-certifying-compilation-framework`

G2 Symbolic Execution Engine for Haskell
`https://github.com/BillHallahan/G2`

Simple-R Symbolic Execution Engine for R
`https://github.com/AntonXue/simple-r`

Multi-Terminal Interval Decision Diagrams
`https://github.com/dzufferey/mtidd`

Technical *Programming Languages*
Haskell, C, Python, Java, R, Scala, C++, SMTLIB, LaTeX