Anton Xue

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Interests	Convex optimization, formal methods, machine learning, programming languages

Education

Ph.D. Computer and Information Science University of Pennsylvania	08/2019 – Present
B.S. Mathematics (Intensive) and Computer Science Yale University	08/2015 – 05/2019

Work Experience

Research Intern SRI International	05/2022 – 08/2022
Research Intern Nokia Bell Labs	06/2019 – 08/2019
Research Assistant Yale University Department of Computer Science	09/2015 – 05/2019
Research Intern Harvard John A. Paulson School of Engineering and Applied Sciences	05/2018 – 08/2018
Research Intern Max Planck Institute for Software Systems	05/2017 – 08/2017
Software Engineering Intern Harvard Medical School	05/2014 – 08/2015

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

1. A. Xue, L. Lindemann, A. Robey, H. Hassani, G. Pappas, R. Alur. *Chordal Sparsity for Lipschitz Constant Estimation of Deep Neural Networks.* Proceedings of the 61st IEEE Conference on Decision and Control, 2022.

2. R. Alur, P. Hilliard, Z. G. Ives, K. Kallas, K. Mamouras, F. Niksic, C. Stanford, V. Tannen, A. Xue. *Synchronization Schemas.* Proceedings of the 40th ACM SIGMOD-SIGACT-SIGAI Symposium on Principles of Database Systems, pp. 1-18, 2021.

3. A. Xue and N. Matni. *Data-Driven System Level Synthesis.* Proceedings of the 3rd Conference on Learning for Dynamics and Control, PMLR 144, pp. 189-200, 2021.

4. K. Namjoshi and A. Xue. *A Self-Certifying Compilation Framework for WebAssembly.* Proceedings of the International Conference on Verification, Model Checking, and Abstract Interpretation, pp 127-148, 2021.

5. W. T. Hallahan, A. Xue, and R. Piskac. *G2Q: Haskell Constraint Solving.* Proceedings of the 12th ACM SIGPLAN International Symposium on Haskell, pp 44-57, 2019.

6. W. T. Hallahan, A. Xue, M. T. Bland, R. Jhala, and R. Piskac. *Lazy Counterfactual Symbolic Execution.* Proceedings of the 40th ACM SIGPLAN Conference on Programming Language Design and Implementation, pp. 411-424, 2019.

Presentations	*Data-Driven System Level Synthesis* Learning for Decision and Control, 2021	06/2021
	Towards a Self-certifying Compiler for WebAssembly IBM Programming Language Day 2019	12/2019
	Towards a Self-certifying Compiler for WebAssembly Formal Methods in Computer-Aided Design Student Forum, 2019	10/2019
	Towards the Formalization and Analysis of R Formal Methods in Computer-Aided Design Student Forum, 2018	11/2018
	Building a Symbolic Execution Engine for Haskell Formal Methods in Computer-Aided Design, Student Forum, 2017	11/2017
	Building a Symbolic Execution Engine for Haskell Tools for Automatic Program Analysis, 2017	08/2017
	A Symbolic Execution Framework for Haskell Principles of Programming Languages, Student Research Competition, 2017	01/2017
Teaching	*Teaching Assistant* CIS 515 Fundamentals of Linear Algebra and Optimization, Fall/2020, Spring/2021 CIS 160 Mathematical Foundations of Computer Science, Summer/2020 University of Pennsylvania	05/2020 – 12/2020
	Teaching Assistant 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	09/2016 – 05/2019
Community	*Student Volunteer* Principles of Programming Languages, 2022	01/2022
	Artifact Evaluation Committee Static Analysis Symposium, 2021	06/2021
	Reviewer IEEE Control Systems Letters, 2021	03/2021
	Artifact Evaluation Committee Programming Language Design and Implementation, 2021	03/2021
	Artifact Evaluation Committee	03/2020

Programming Language Design and Implementation, 2020

Head Student Volunteer   07/2019
Computer Aided Verification, 2019

Student Volunteer   06/2019
Programming Language Design and Implementation, 2019

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

Student Volunteer   07/2017
Computer Aided Verification, 2017

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