

Ben Mariano

2317 Speedway, Austin, TX 78712 • bmariano@cs.utexas.edu • <https://bmarwritescode.github.io>

Education

University of Texas at Austin, Austin, Texas 2019- Present

- PhD, Department of Computer Science with advisor Isil Dillig

University of Maryland, College Park, Maryland 2013-2019

- B.S., Department of Electrical and Computer Engineering, GPA: 3.76
- M.S., Department of Computer Science with advisor Jeff Foster, GPA: 4.0

Research

University of Texas at Austin, Austin, Texas 2019 – Present

Research Assistant for Dr. Isil Dillig (UToPiA Lab)

- Using neural program synthesis to solve source-to-source translation problems
- Created program synthesizer for summarizing loops in smart contracts
- Designed DSL for specifying liveness properties of smart contracts

Max Planck Institute, Kaiserslautern, Germany Summer 2019

Intern for Dr. Maria Christakis

- Designed optimization methodology for abstract interpreter parameters
- Performed empirical study on real-world programs to measure precision/performance tradeoffs

University of Maryland, College Park, Maryland 2017 – 2019

Research Assistant for Dr. Jeff Foster (PLUM Lab)

- Developed and tested new models of the Java Standard Library for synthesis optimization
- Experimented with new axiomatic programming paradigms for program synthesis

Work Experience

University of Texas at Austin, Austin, Texas Fall 2019

Teaching Assistant for Discrete Math with Dr. Isil Dillig

- Graded homework, taught weekly discussion, and helped design examination problems

University of Maryland, College Park, Maryland Spring 2019

Co-teacher for Functional Pearls (<http://www.cs.umd.edu/class/spring2019/cmsc388F/>) with Cameron Moy

- Created and taught seven lectures on advanced functional programming topics

University of Maryland, College Park, Maryland Fall 2017

Teaching Assistant for Advanced Functional Programming with Dr. Niki Vazou

- Helped design and grade Haskell homeworks, designed lecture material, and held office hours

Prime Solutions, Columbia, Maryland Summer 2015, Summer 2016

Software Engineering Intern

- Designed, developed, and tested simulation of malicious protocols in C and Python (2016)
- Automated analysis of local Wi-Fi traffic to determine device-specific information (2015)

Publications

Demystifying Loops in Smart Contracts (ASE 2020)

Ben Mariano, Yanju Chen, Yu Feng, Shuvendu K. Lahiri, Isil Dillig

Program Synthesis Using Algebraic Library Specifications (OOPSLA 2019)

Ben Mariano, Josh Reese, Siyuan Xu, ThanhVu Nguyen, Xiaokang Qiu, Jeffrey S. Foster, Armando Solar-Lezama

Automatically Tailoring Static Analysis to Custom Usage Scenarios (in review)

Numair Mansur, **Ben Mariano**, Maria Christakis, Jorge Navas, Valentin Wustholz

SmartPulse: Automated Checking of Temporal Properties in Smart Contracts (in review)

Jon Stephens, Kostas Ferles, **Ben Mariano**, Shuvendu K. Lahiri, Isil Dillig