

# Ben Mariano

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## 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

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## Research

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

*Research Assistant for Dr. Isil Dillig (UToPiA Lab)*

- Designing DSL for specifying liveness properties of smart contracts
- Developing synthesizer for loop invariant generation in smart contracts

**Max Planck Institute**, Kaiserslautern, Germany Summer 2019

*Intern for Dr. Maria Christakis*

- Helped design 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

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## 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

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## Publications

**Program Synthesis Using Algebraic Library Specifications (OOPSLA 2019)**

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

**Balancing the Precision-Performance Tradeoff in Abstract Interpretation** (in review)

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