

Anders Miltner

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RESEARCH INTERESTS	My primary research interest lies in Programming Languages. Specifically, I am interested in developing novel program synthesis techniques, and finding new problems that program synthesis can solve. I am interested in applying my work to Software Engineering and Artificial Intelligence.	
EDUCATION	<i>Ph.D. Computer Science</i>	2020
	Princeton University, Princeton, NJ Advisor: David Walker Thesis: Synthesizing Lenses	
	<i>M.A. Computer Science</i>	2017
	Princeton University, Princeton, NJ Advisor: David Walker	
RESEARCH EXPERIENCE	<i>M.A. Mathematics</i>	2013
	University of Pennsylvania, Philadelphia, PA Advisors: Scott Weinstein and Val Tannen	
	<i>B.S.E. Computer Science and Mathematics</i>	2013
	University of Pennsylvania, Philadelphia, PA Advisors: Zachary Ives and Philip Gressman	
RESEARCH EXPERIENCE	<i>Postdoctoral Fellow</i>	2020 - Present
	UT Austin, Austin, TX Advisors: Isil Dillig and Swarat Chaudhuri	
	<i>Graduate Researcher</i>	2015 - 2020
	Princeton University, Princeton, NJ Advisor: David Walker	
RESEARCH EXPERIENCE	<i>Research Intern</i>	2019
	Microsoft, Redmond, WA Advisors: Sumit Gulwani and Gustavo Soares	
	<i>Undergraduate Researcher</i>	2011-2012
	University of Pennsylvania, Philadelphia, PA Advisors: Insup Lee and Krishna Venkatasubramanian	
AWARDS	<i>Distinguished Paper Award</i>	PLDI 2020
	For the paper <i>Data-Driven Inference of Representation Invariants</i>	
AWARDS	<i>Student Research Competition First Place</i>	ICFP 2017
	For the work on <i>Synthesizing Bijective Lenses</i>	

TEACHING EXPERIENCE	<i>Princeton PTI Pod Instructor</i> MAT 030 – Intermediate Algebra	Spring 2018
	<i>Princeton PTI Pod Instructor</i> MAT 020 – Elementary Algebra	Spring 2017, Fall 2017
	<i>Princeton CS Teaching Assistant</i> COS 226 – Algorithms and Data Structures	Spring 2017
	<i>Princeton CS Teaching Assistant</i> COS 326 – Functional Programming	Fall 2016
	<i>Princeton PTI Pod Instructor</i> MAT 015 – Basic Mathematics	Fall 2016
	<i>Princeton PTI Pod Instructor</i> MAT 037 – Beginning Algebra	Spring 2016
	<i>Penn CS Teaching Assistant</i> CIS 160 – Mathematical Foundations of Computer Science	Spring 2012, Fall 2012
	<i>Penn CS Teaching Assistant</i> CIS 120 – Programming Languages and Techniques I	Spring 2011, Fall 2011
INDUSTRY EXPERIENCE	<i>Software Engineer</i> Microsoft, Redmond, WA	2013 - 2015
	<i>Engineering Intern</i> Ampush, San Francisco, CA	2012
CONFERENCE PUBLICATIONS	<p><i>POPL 2022</i> Anders Miltner, Adrian Trejo Nuñez, Ana Brendel, Swarat Chaudhuri, and Isil Dilig. Bottom-up Synthesis of Recursive Functional Programs using Angelic Execution. In Principles of Programming Languages, 2022.</p> <p><i>PLDI 2020</i> Anders Miltner, Saswat Padhi, Todd Millstein, and David Walker. Data-Driven Inference of Representation Invariants. In Programming Language Design and Implementation, 2020. <i>Distinguished Paper Award</i>.</p> <p><i>OOPSLA 2019</i> Anders Miltner, Sumit Gulwani, Vu Le, Alan Leung, Arjun Radhakrishna, Gustavo Soares, Ashish Tiwari, Abhishek Udupa. On the Fly Synthesis of Edit Suggestions. In Object-oriented Programming, Systems, Languages, and Applications, 2019.</p> <p><i>ICFP 2019</i> Anders Miltner, Solomon Maina, Kathleen Fisher, Benjamin C. Pierce, David Walker, Steve Zdancewic. Synthesizing Symmetric Lenses. In The International Conference on Functional Programming, 2019.</p> <p><i>ICFP 2018</i> Solomon Maina, Anders Miltner, Kathleen Fisher, Benjamin C. Pierce, David Walker, Steve Zdancewic. Synthesizing Quotient Lenses. In The International Con-</p>	

ference on Functional Programming, 2018.

POPL 2018

Anders Miltner, Kathleen Fisher, Benjamin C. Pierce, David Walker, Steve Zdancewic. Synthesizing Bijective Lenses. In Principles of Programming Languages, 2018.

WORKSHOP *IWC 2020*

PUBLICATIONS **Anders Miltner**, Kathleen Fisher, Benjamin C. Pierce, David Walker, Steve Zdancewic. Confluence in Lens Synthesis. In The International Workshop on Confluence, 2020.

PATENTS *2021*

Sumit Gulwani, Arjun Radhakrishna, Abhishek Udupa, Gustavo Soares, Vu Le, **Anders Miltner**, Mark Wilson-Thomas. Automatic Repetition of Context-Specific Code Edits.

SERVICE *PLDI 2022*

Program Committee

ICFP 2021

Student Research Competition Chair

OOPSLA 2020

Artifact Evaluation Committee

BX 2019

Program Committee

ESOP 2019

External Reviewer

TOPLAS 2017

External Reviewer

PLDI 2017

Artifact Evaluation Committee