

Siddhartha Prasad

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I am a researcher focused on helping people write programs that behave as they intend. My research interests are informed by my time as an engineer. I have written code that doesn't do what I want it to, and I want to spare everyone else the indignity.

Education

Brown University, Providence, RI Jan 2022 - Ongoing
PhD in Computer Science

Tufts University, Medford, MA May 2016
Bachelor of Science in Computer Science and Mathematics Summa cum Laude

Employment

Apple Seattle, WA
Research Intern *Human-Centered Machine Learning team* *May - Sept 2023*
Researcher on the team, exploring how AI and formal methods techniques can be used to support early childhood education.

Microsoft Redmond, WA
Software Engineer II *Applied AI team* *April 2018 - Sept 2021*

- Developer on the Azure Cognitive Services team, that allow for AI to easily be injected into apps, bots, and websites.
- Built a containerized framework that allowed AI models to be run portably across a variety of operating systems and architectures.

Software Engineer *Developer Ecosystem team* *Aug 2016 - March 2018*

- Developed APIs and features for XAML, a UI language used by developers to build Universal Windows apps.
- Designed XAML APIs for input modalities (keyboard, gamepad, ink), accessibility, and cross-platform language support.

Intern *Developer Ecosystem team* *May - Aug 2015*

INRIA Saclay, France
Intern *Parsifal team* *Jun - July 2014*
Research on correctness certificates for first order term-rewriting.

Publications

A Misconception-Driven Adaptive Tutor for Linear Temporal Logic

Siddhartha Prasad, Ben Greenman, Tim Nelson, Shriram Krishnamurthi
International Conference on Computer Aided Verification (CAV), to appear, 2025

Lightweight Diagramming for Lightweight Formal Methods: A Grounded Language Design

Siddhartha Prasad, Ben Greenman, Tim Nelson, Shriram Krishnamurthi
European Conference on Object-Oriented Programming (ECOOP), to appear, 2025

Misconceptions in Finite-Trace and Infinite-Trace Linear Temporal Logic

Ben Greenman, Siddhartha Prasad, Antonio Di Stasio, Shufang Zhu, Giuseppe De Giacomo, Shriram Krishnamurthi, Marco Montali, Tim Nelson, Milda Zizyte
International Symposium on Formal Methods (FM), 2024

ContextQ: Generated Questions to Support Meaningful Parent-Child Dialogue While Co-Reading

Griffin Dietz Smith, Siddhartha Prasad, Matt J Davidson, Leah Findlater, R Benjamin Shapiro
Proceedings of the 23rd Annual ACM Interaction Design and Children Conference (IDC), 2024

Forge: A Tool and Language for Teaching Formal Methods

Tim Nelson, Ben Greenman, Siddhartha Prasad, Tristan Dyer, Ethan Bove, Qianfan Chen, Charles Cutting, Thomas Del Vecchio, Sidney LeVine, Julianne Rudner, Ben Ryjikov, Alexander Varga, Andrew Wagner, Luke West, Shriram Krishnamurthi
ACM SIGPLAN Conference on Object-Oriented Programming Systems, Languages & Applications (OOPSLA), 2024

Conceptual Mutation Testing for Student Programming Misconceptions

Siddhartha Prasad, Ben Greenman, Tim Nelson, Shriram Krishnamurthi

The Art, Science, and Engineering of Programming, 2024

Generating Programs Trivially: Student Use of Large Language Models

Siddhartha Prasad, Ben Greenman, Tim Nelson, Shriram Krishnamurthi

Proceedings of the ACM Conference on Global Computing Education (CompEd), 2023

Making Hay from Wheats: A Classsourcing Method to Identify Misconceptions

Siddhartha Prasad, Ben Greenman, Tim Nelson, John Wrenn, Shriram Krishnamurthi

Koli Calling International Conference on Computing Education Research (Koli Calling), 2022

Large-Scale Intelligent Microservices

Mark Hamilton, Nick Gonsalves, Christina Lee, Anand Raman, Brendan Walsh, **Siddhartha Prasad**, Dalitso Banda, Lucy Zhang, Lei Zhang, William T Freeman

IEEE International Conference on Big Data, 2020