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
High Thesis Honors

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

2025 **A Misconception-Driven Adaptive Tutor for Linear Temporal Logic**
Siddhartha Prasad, Ben Greenman, Tim Nelson, Shriram Krishnamurthi
International Conference on Computer Aided Verification (CAV) **[Distinguished Paper]**

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) **[Distinguished Paper]** **[Distinguished Artifact]**

2024 **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
Interaction Design and Children (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

OOPSLA (ACM SIGPLAN)

2024 **Conceptual Mutation Testing for Student Programming Misconceptions**
Siddhartha Prasad, Ben Greenman, Tim Nelson, Shriram Krishnamurthi
The Art, Science, and Engineering of Programming

2023 **Generating Programs Trivially: Student Use of Large Language Models**
Siddhartha Prasad, Ben Greenman, Tim Nelson, Shriram Krishnamurthi
ACM Conference on Global Computing Education (CompEd)

2022 **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

2020 **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