

Siva Kamesh Somayyajula

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Education

Cornell University, College of Arts and Sciences

B.A. in Mathematics & Computer Science, GPA: 3.86/4 (Dean's List all semesters)

Ithaca, NY

August 2015–May 2018

Activities & Seminars

- Association of Computer Science Undergraduates
- Leader of Undergraduate Programming Languages Reading Group
- Programming Languages Discussion Group
- Computer Science Colloquium

Coursework (* = in progress)

- Introduction to Constructive Type Theory (CS 6180)*
- Advanced Programming Languages (CS 6110)
- Applied Logic (CS 4860)
- Introduction to Analysis of Algorithms (CS 4820)*
- Programming Languages and Logics (CS 4110)
- Computer System Organization and Programming (CS 3410)
- Data Structures and Functional Programming (CS 3110)
- Object-Oriented Design and Data Structures – Honors (CS 2112)
- Discrete Structures (CS 2800)
- C++ Programming (CS 2024)
- Basic Probability (MATH 4710)*
- Linear Algebra (MATH 4310)
- Applicable Algebra (MATH 3360)
- Manifolds and Differential Forms (MATH 3210)

Thomas Jefferson High School for Science and Technology

Jefferson Diploma, GPA: 4.27/4

Alexandria, VA

June 2011–June 2015

Experience

Indiana University Bloomington

Undergraduate Researcher, Department of Mathematics

Bloomington, IN

June 2017–

- Working with Prof. Amr Sabry on reversible programming languages in homotopy type theory
- Formalizing this model and other results in synthetic homotopy theory in Agda ([ssomayyajula/HoTT](https://github.com/ssomayyajula/HoTT))

Cornell University, Department of Computer Science

Teaching Assistant

- Working for Prof. Robert Constable on Applied Logic (CS 4860), which introduces formal logic
- Will hold office hours, give guest lectures, and grade assignments & exams

Ithaca, NY

January–May 2018

Course Consultant

- Consulted for C++ Programming (CS 2024) taught by Ron DiNapoli
- Graded assignments and helped students on Piazza

August–December 2017

Undergraduate Researcher

- Worked with a team of graduate students under Profs. Nate Foster & Dexter Kozen on the Frenetic Project
- Implemented a system for network program satisfaction up-to specification ([ssomayyajula/equiv](https://github.com/ssomayyajula/equiv))

January 2016–May 2017

Snowflake Computing

Engineering Intern

- Worked on the Snowflake data warehousing system's execution platform
- Implemented the redundant table/join elimination query optimization for its SQL compiler

San Mateo, CA

June–August 2016

U.S. Naval Research Laboratory

Intern, Software Engineering Section

- Worked on SecProve, an assertions-based formal verification tool for C
- Utilized techniques in verification condition generation to implement a prototype of SecProve
- Created interface to store analysis metadata in MySQL database

Washington, D.C.

June–August 2014

Skills

Technologies: Haskell, OCaml, Agda, Lean, Idris, Java (JSP, ANTLR, Google App Engine), Python, C (OpenMPI), C++, SQL

Software: Mathematica, L^AT_EX, Microsoft Office, Autodesk Inventor, TerrSet/IDRISI GIS

Languages: Spanish (professional working proficiency), Telugu (elementary proficiency)

Active Projects

[refined_logic](#): a framework for implementing proof assistants in OCaml for NuPRL-style refinement logics

[elab](#): Idris-style elaboration for Haskell

[cubism](#): excursions in cubical type theory