Devon Loehr

PhD Student (2nd year) at Princeton University

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EDUCATION

Princeton University — *PhD in Computer Science*

August 2018 - May 2023 (Expected)

- Relevant Grad Courses: Networks, Automated Reasoning, Programming Languages, Network Verification
- Currently researching verification of computer networks with David Walker.

Swarthmore College — *BA in Computer Science, Mathematics*

September 2014 - May 2018

- Relevant Courses: Data Structures & Algorithms, Algorithms, Programming Languages, Compilers, Theory of Computation
- Graduated with High Honors

INDUSTRY EXPERIENCE

GrammaTech, Ithaca, NY — *Software Engineering Intern*

Summer 2015, 2016

- Increased performance by translating legacy Scheme code to C++, by manually synthesizing equivalent code.
- Redesigned 1 nonfunctional legacy program during translation to work with modern architecture.

PROJECTS

CoPylot — *Static Type Analysis of Python*

- Designed grammar and semantics to describe behavior of Python
- Simplified Python to a pure-functional intermediate language using three successive program transformations.
- Applied Demand-Driven Program Analysis to deduce typing information statically.

NV — *An Intermediate Language for Network Verification*

- Reduced redundant code by writing a template for program transformations, subsuming 80% of existing transformations.
- Extended NV language with 5 new datatypes and 2 new analyses
- Ensured completeness of SMT analysis by writing a novel program transformation to eliminate dictionaries.

SKILLS

Languages
OCaml, Python, C++

Tools/Frameworks
LaTeX, Git, OUnit

Mathematics
Discrete Math, Algebra, proof-based reasoning

Other Skills

Technical communication, unit testing

AWARDS

Phi Beta Kappa (2018)
Awarded to top 50-60 seniors by GPA in a class of ~400.