Joshua Cohen

Email: jmc16@princeton.edu
GitHub: github.com/joscoh

RESEARCH INTERESTS

Formal verification, algorithms, proof assistants, functional programming

EDUCATION

Princeton University	Princeton, NJ
• PhD in Computer Science, Advisor: Andrew Appel	2020-Current
University of Pennsylvania	Philadelphia, PA
• MSE in Computer Science, GPA: 4.0/4.0	2018-2020
• BA in Mathematics and Computer Science (*summa cum laude*), GPA: 3.98/4.0	2016-2020

PUBLICATIONS

- **Joshua M. Cohen**, Qinshi Wang, and Andrew W. Appel. "Verified Erasure Correction in Coq with MathComp and VST". in: *CAV 2022: 34th International Conference on Computer-Aided Verification.* 2022

- Joachim Breitner, Antal Spector-Zabusky, Yao Li, Christine Rizkallah, John Wiegley, **Joshua Cohen**, and Stephanie Weirich. "Ready, Set, Verify! Applying hs-to-coq to Real-World Haskell Code". In: *Journal of Functional Programming* 31 (2021)

TALKS

- *Verified Erasure Correction in Coq with MathComp and VST.* New Jersey Programming Languages and Systems Seminar (NJPLS). May 2022.

EMPLOYMENT

Sandia National Labs - Formal Methods R&D Intern	Summer 2022 - Present
• Working on formal semantics for the Why3 intermediate verification language.	
AWS - Applied Scientist Intern	Summer 2021
• Used Dafny to prove correctness theorems about the IAM policy evaluator.	
AWS - SDE Intern	Summer 2019
• Developed internal tools for AWS Key Management Service HSM team.	
• Used several cryptography libraries to interface with Yubikeys.	
KPMG - Data & Analytics Intern	Summer 2018
• Developed Microsoft Office add-in for automated document generation using Javascript, HTML, and Office-JS API.	

TEACHING

Teaching Assistant - Princeton University	
• Theory of Algorithms (COS 423)	Fall 2022

Teaching Assistant - University of Pennsylvania
- Introduction to Algorithms (CIS 320)   Fall 2019, Spring 2020
- Programming Languages and Techniques I (CIS 120)   Spring 2018, Fall 2018, Spring 2019

Honors and Awards

Gordon Wu Fellowship in Engineering - Princeton University
Benjamin Franklin Scholar - University of Pennsylvania
IEEE Eta Kappa Nu Honor Society Member - University of Pennsylvania

Skills

Verification - Coq, VST, Dafny, Verifast, Liquid Haskell
Programming - C, Java, Python, Haskell, OCaml, LaTeX