

# Nathan Glover

Email: nsglover@cmu.edu

Updated May 30, 2026

## Education

### Carnegie Mellon University (CMU)

- 2024-Now Ph.D. in Computer Science [Advisor: [Jan Hoffmann](#)]
- 2023-2024 M.S. in Mathematical Sciences [Advisor: [Tomasz Tkocz](#), Program GPA: 3.79]
- 2019-2024 B.S. in Mathematical Sciences (Discrete Math and Logic) [Program GPA: 3.83]
- 2020-2024 Additional Major in Computer Science [Program GPA: 3.93]

## Publications

Nathaniel Glover and Jan Hoffmann. 2026. *LFPL: Revisited and Mechanized*. In Proceedings of the Forty-First Annual Symposium on Logic in Computer Science (LICS '26). (forthcoming).

Long Pham, Yue Niu, Nathan Glover, Feras Saad, and Jan Hoffmann. 2025. *Integrating Resource Analyses via Resource Decomposition*. Proc. ACM Program. Lang. 9, OOPSLA2, Article 409 (October 2025), 30 pages. <https://doi.org/10.1145/3763798>

Glover, N., Tkocz, T. and Wyczesany, K. (2023), *Stability of polydisc slicing*. *Mathematika*, 69: 1165-1182. <https://doi.org/10.1112/mtk.12225>.

## Other

### Type-Safe Vector Arithmetic in Rust

### Extended Course Project (CMU)

## Research

Advisor: Ioannis Gkioulekas, Course Number: 15-468

April 2023 – May 2023

## Experience

I wrote a photorealistic image renderer in Rust with, beyond project requirements, type safety features such as vector space checking and a type-level distinction for unit vectors. I received an honorable mention for the award for most technically advanced project.

### Formal Proof of the Lovász Local Lemma

### Extended Course Project (CMU)

Advisor: Jeremy Avigad, Course Number: 21-321

November 2023 – January 2023

I wrote the first (to our knowledge) mechanized proof of the Lovász Local Lemma using the Lean 3.0 proof assistant. See [here](#) for the proof code.

### Numerics for Liquid Crystal Dynamics

### Undergraduate Research (CMU)

Advisor: Franziska Weber

June 2021 – August 2021

Collaborator: Jennifer Jin

We developed a numerical method for simulating liquid crystal dynamics, generalizing the work of [Karper and Weber \(2013\)](#). I provided 3D simulation visuals via OpenGL. See [here](#) for a summary of our results.

## Teaching

### Teaching Assistant (CMU School of Computer Science)

Spring 2026

## Experience

15-413/713: Advanced Topics in Programming Languages

### Teaching Assistant (CMU School of Computer Science)

Spring 2024

15-312: Foundations of Programming Languages

### Teaching Assistant (CMU School of Computer Science)

Fall 2023

15-327: Monte-Carlo Methods and Applications

**Teaching Assistant (CMU School of Computer Science)**

Fall 2022

15-462: Computer Graphics

**Honors**

**Richard A. Moore Award (CMU)**

2021

Awarded for outstanding scholastic achievement during freshman and sophomore years of study.

**Mathematical Studies Program (CMU)**

2020

Admitted into selective, accelerated mathematics program emphasizing rigorous study of both pure and applied mathematics.

**Deans List, High Honors (CMU)**

2019 - 2024

With the exception of Spring 2020, when the award was cancelled due to the COVID-19 online semester.

**Skills**

**Proof Assistants**

Istari, Agda, Lean

**Programming Languages**

SML, Rust, OCaml, Haskell, Java, C#, C/C++, x86-64 Assembly

**Hobbies**

Flyfishing, hiking, backpacking, glassblowing, piano, video games, board games