



# Noam Benson-Tilsen

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## EDUCATION

### Cornell University, College of Arts and Sciences

Ithaca, NY

*Bachelor of Arts in Computer Science and Mathematics; GPA: 3.86/4.30*

*Jan 2023 – May 2025*

**Rensselaer Polytechnic Institute:** *Computer Science and Mathematics; GPA: 3.92/4.00*

*Sep 2021 – Jan 2023*

## RELEVANT COURSEWORK

**Completed:** Abstract Algebra, Analysis of Algorithms, Computer Organization, Data Structures, Formal Logic and AI, Functional Programming, High-Level Digital Design Automation (graduate course in High-Level Synthesis), Linear Algebra, Machine Learning, Probability Theory and Applications, RPI Center for Open Source, Systems Programming  
**Current:** Computer Vision, Honors Introduction to Analysis, Programming Languages & Logics

## SKILLS

**Software:** C/C++, Java, JavaScript (Node.js, Vue.js, Express.js), Julia, MongoDB, OCaml, Python, TypeScript

**Technologies:** Docker, Git, GitHub, Linux, L<sup>A</sup>T<sub>E</sub>X, Vim, VS Code

**Miscellaneous:** Distributed systems, High performance computing (HPC), Microservices, NumPy, PyTorch, R, RStudio, RDMA, SQL, Verilog, Vitis HLS, Vivado

## EXPERIENCE

### Cornell Bowers College of Computing and Information Science

Ithaca, NY

*Teaching Consultant for CS 3110 (Data Structures and Functional Programming)*

*Jan 2024 – Present*

Ω Administer and assist students in intermediate Cornell CS course taught in OCaml

### Birman Research Group

Ithaca, NY

*Undergraduate Researcher*

*Aug 2023 – Present*

Ω Open-source development in C++ of Cornell's Derecho/Cascade distributed computing framework for running cloud micro-services on server subclusters using RDMA under the supervision of [Prof. Kenneth P. Birman](#) and [Dr. Weijia Song](#)

Ω Developing slab-allocator library in C++ over jemalloc for high-performance shared-memory management

Ω Developing a central bank digital coin (CBDC) for the Bundesbank (German central bank) over CascadeChain, leveraging extremely low latency RDMA datapaths

### Collablab Technologies

Remote

*Software Engineer Intern*

*May 2023 – Aug 2023*

Ω Led team to develop code-running interface with full terminal functionality for browser-based code-running

Ω Optimized frontend performance by a factor of 2–3, standardized UX/UI, streamlined developer workflow

Ω Contributed to streamlining database structure and reducing cost in API calls by over 30%

### Troy Tutors

Remote

*Computer Science and Mathematics Tutor*

*Jan 2023 – Sep 2023*

Ω Provided personalized tutoring for RPI students in Data Structures and Foundations of Computer Science

Ω Averaged seven one-hour bookings per week, helping each student excel in coursework

### RPI Department of Computer Science

Troy, NY

*Undergraduate Programming Mentor*

*Aug 2022 – Jan 2023*

Ω Taught students data structures and programming fundamentals in introductory CS course's weekly office hours and discussion sections

Ω Marked over 150 homeworks or exams weekly

## LEADERSHIP

### Center for Jewish Living at Cornell

Ithaca, NY

*Treasurer, Executive Board*

*Jan 2024 – Present*

Ω Create and execute \$200,000 budget, manage funding from various sources used for social functions

## PUBLICATIONS

2023     **Total Difference Chromatic Numbers of Regular Infinite Graphs**

*DOI: [10.2140/involve.2023.16.765](https://doi.org/10.2140/involve.2023.16.765)*