# Conner Rose

linkedin.com/in/ConnerRose • github.com/ConnerRose • conner.n.rose@gmail.com • (517) 648-1359

## Education

**University of Michigan**, *Ann Arbor, MI* **Expected May 2026**

*B.S.E. and M.S.E. in Computer Science, Completing Requirements for B.S. in Honors Mathematics* *GPA: 3.75/4.0*

- **CS Coursework**: Data Structures and Algorithms, Discrete Math, Machine Learning, Computer Organization, Computation Theory, Web Systems, Advanced Operating Systems, Formal Verification of Systems Software, System Design of a Search Engine, Distributed Systems
- **Mathematics Coursework**: Calculus I-IV, Linear Algebra, Combinatorics and Graph Theory, Probability, Real Analysis, Graduate Probability Theory, Advanced Linear Algebra, Discrete State Stochastic Processes, Graduate Topology

## Experience

**IMC Trading**, *Chicago, IL* **June – August 2025**

*Incoming Software Engineering Intern*

**Bloomberg L.P.**, *New York, NY* **June – August 2024**

*Software Engineering Intern – Enterprise Data, Index Core Data*

- Designed and implemented dependency resolution and automated testing tool using **Python**, used by team of **80 engineers**, reducing turnaround time when modifying bond formulas in distributed calculation engine
- Expanded testing coverage from single-field to **end-to-end**, identifying existing bugs in calculation pipeline, and preventing bugs from being introduced that would not have been identified previously, resulting in more **robust system**
- Designed and implemented formula modification user interface using **React**, allowing developers to modify bond dependency and calculation configuration files, validate their modifications, while monitoring downstream affects

**Traders At Michigan**, *Ann Arbor, MI* **September 2023 – Present**

*Head of Software Engineering*

- Design and deliver advanced SWE curriculum to club members, supporting their SWE interview and career preparation

**Bloomberg L.P.**, *New York, NY* **May – August 2023**

*CTO Office Intern – Compute Architecture and OSPO*

- Designed automated access revocation system using **Python** and **LDAP**, deployed to **Docker**-containerized **Jenkins Pipeline**, ensuring appropriate removal of inactive accounts from Bloomberg's open-source GitHub repositories
- Developed GitHub crawler using **Python** to scan all projects contributed to by Bloomberg employees over 10 years, automating contribution cataloging and open-source license compliance verification, increasing audited projects by **3x**

## Projects

**Omakase (Trading Game)** **March 2025**

*C++20, TypeScript, React, WebSockets*

- Developed real-time ETF trading game, played at UMich Trading Competition by **120 players concurrently**
- Implemented high-performance matching engine in **C++**, achieving order processing time of **75ns**
- Architected **WebSocket**-based communication protocol to support high trading volume, avoiding continuous polling
- Utilized **state machine replication** to ensure consistent state resulting from potential backend crashes and reboots

**Network File Server** **December 2024**

*C++20, Boost, Multithreading, Socket Programming, File Systems*

- Designed and implemented **highly-concurrent** network file system in modern **C++**, using **Boost** upgradeable reader-writer locks for increased concurrency, while guaranteeing disk consistency in the event of crashes

**Operating System Kernel**, *C++20* **October - November 2024**

- Designed and implemented **virtual memory manager** in modern **C++**, capable of servicing concurrent malloc requests
- Wrote a threading library in **C++**, including **threads**, **mutexes**, and **condition variables**, with **multi-core** CPU support

## Competitions

**University of Michigan Collegiate Poker Tournament** **October 2024**

- Placed 4th of 108 students from universities across the country, securing $500 in prize money

**IMC Prosperity 2**, *Python* **April 2024**

- Utilized ETF arbitrage, pairs trading, game theory simulations, and other strategies to place 53rd of 9,140 (**top 0.58%**)

## Technical Skills

**Languages**: C++, Python, Go, JavaScript/TypeScript, HTML/CSS, SQL, LaTeX

**Tools**: Linux, Git, Docker, Jenkins, Django, React, PostgreSQL, MongoDB, Pandas, NumPy, (Neo)Vim, Tmux