

ETHAN STERLING

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EDUCATION

Northwestern University, Evanston, IL

September 2022 – June 2026

M.S. in Computer Science and B.A. in Economics, Minor in Data Science

Graduate GPA: 3.9/4.0

- Awards: Departmental Honors in Economics, Phi Beta Kappa, Dean's List, Innovation Fellowship
- Honors Thesis: Supply-Chain Concentration as a Signal for Options-Implied Tail Risk
- Undergraduate Teaching Assistant for Introduction to Computer Systems
- Coursework: Kernel & Low Level Software Development, Operating Systems, Networking, System Security, Programming Languages, Data Structures & Algorithms, Mechanism Design, Linear Algebra, Machine Learning

PROFESSIONAL EXPERIENCE

Federal Reserve Bank of Chicago

Chicago, IL

Software Engineering Intern

June 2024 – August 2024, June 2025 – August 2025

- Implemented high-availability disaster recovery solution on AWS using Terraform to deploy multi-region application on ECS Fargate, enabling automated, health-check-driven failover managed by Route 53, Lambda, and CloudWatch
- Created dynamic Spring Batch pipeline for high-performance, parallel data migration from Oracle to PostgreSQL
- Engineered self-healing DevSecOps pipeline with GitLab CI to automate OSS dependency updates in Spring/Angular
- Architected critical RESTful APIs using Spring Boot to replace database links, aiding cloud migration effort
- Leveraged Docker, Terraform, Mockito unit tests, and built GitLab CI/CD pipelines for deployment and scalability
- Maintained FedLine Solutions, securing payment services for 100,000 users, moving 5 trillion dollars daily

Mayfest Productions

Evanston, IL

Co-Chair (2025–26) | Executive Producer (2024–25) | Producer (2022–24)

November 2022 – June 2026

- Oversaw festival operations, coordinated 10 committees and managed a \$1,000,000 budget for over 12,000 attendees
- Collaborated with University administration on safety, security, compliance, and campus partner communication
- Advised committees on legal, contractual, marketing, and booking decisions to ensure continued event success
- Executed contracts and collaborated with 16+ artist teams and vendors to fulfill technical and hospitality needs

Fulminare Holdings

San Diego, CA

Software Engineering Intern

June 2023 – September 2023

- Wrote programs in Swift for data imports from other apps to improve user transitions to poker bankroll tracker
- Marketed app by creating Twitter bot using OpenAI API to post daily threads increasing app users by 8,000+

RESEARCH

Prescience Lab – The Buoyancy Project (FPVM)

Evanston, IL

Research Assistant

January 2025 – June 2026

- Built a JIT compiler in C, translating a stack-based floating-point IR into x86-64 assembly, leveraging compiled-code caching to achieve a 3.5x average speedup over interpretation and match original architecture-specific emulator
- Abstracted hardware dependencies by lowering same IR to LLVM IR, ensuring full architecture independence
- Enhanced VM instruction set with x86 comparison, precisely manipulating EFLAGS for complex conditional logic
- Defined architectural roadmap for 256-bit AVX vector instruction support to enhance parallel processing capabilities

Prescience Lab – The Constellation Project (DMPL)

Evanston, IL

Research Assistant

April 2024 – September 2024

- Scaled functional programming language MaPLe to a distributed memory environment using MPI and C
- Developed efficient parallel garbage collection for MPL, scaling to hundreds of cores and 1TB+ heap sizes
- Optimized whole-program compilation with MLton for performance competitive with C/C++

TECHNICAL SKILLS

Programming Languages: Java, C, C++, Python, JavaScript, SQL, STATA, Swift, C#, R, Assembly, LISP

Tools and Technologies: Git, Unix shell, GDB, Valgrind, LLVM, Docker, Pandas, NumPy, Matplotlib, AWS, PostgreSQL, scikit-learn, TensorFlow, Jupyter, Spring Boot, Jenkins, Terraform, Mockito, GitLab, Vim, React, Angular, Hibernate, H2

INTERESTS & ACTIVITIES

Clubs: Track Club Events Chair, Northwestern Capital Management, Alpha Epsilon Pi, Undergraduate Economics Society

Hobbies: Music production, DJing, Skiing, Scuba diving, Running, Weightlifting, Reading, 16-inch softball captain