Ethan Havemann

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Education

Northwestern University Evanston, IL

B.S. in Computer Engineering, M.S. in Computer Science *Expected June 2025*

- Minor in Mathematics; Residential Assistant ('22-Present); GPA: 3.8/4.0; Major GPA: 4.0/4.0.
- Relevant Coursework: Intro Computer Systems, Data Structures, Statistical Learning, Stochastic Models, Statistics

Experience

Incoming Software Engineering Intern June 2023 – August 2023

Amazon Web Services (AWS) – People Engine Team *Seattle, WA*

- Ongoing - Design and implement an AWS native background check engine and candidate database, replacing existing Salesforce infrastructure.

Software Engineering Intern September 2022 – December 2022

Amazon – Advertising Data Compute Orchestration Team *Boulder, CO*

- Refactored existing job runner to allow reporting of metrics as well and make design more extensible, develop automatic monitoring microservice for internal EMR fork, surfacing metrics for 250M+ daily spark jobs.
- Worked extensively with Java, AWS EMR, Lambda, SNS, EC2, and DynamoDB to make team's product more lightweight, implemented prototype release pipeline to make adoption orders of magnitude cheaper and faster.
- Served as domain expert in team development setup, served as onboarding buddy for SDE and TPM in November.

Software Engineering Intern May 2022 – September 2022

Acorn Genetics – Genetic Testing Startup at Northwestern *Evanston, IL*

- Lead on Acorn's SANDY genetic processing library (Python), maintaining feature parity to industry leader.
- Transitioned jobs from on-prem desktops to GCP, configured organization and built preliminary Jenkins pipeline.
- Developed quality of life plugins for Acorn and Northwestern researchers, handled Slurm job orchestration.

Projects

Northwestern Financial Technologies Club | *Founder and President* January 2022 – Present

- Lead/Principal Engineer for 30+ student developers across 6 teams, building everything from backtesting engines and contest exchanges to distributed trading games and over-engineered websites.
- Steer technical and programmatic direction of organization, implementing faculty lectures, alumni interaction, optimization and prediction competitions, firm visits, and more to improve awareness of quantitative finance.
- Work with team leaders, faculty, and career office to build cases and systems for future NU Trading Contest.
- Foster tight-knit, academically rigorous community through pre-professional and casual events.

Grail - EE/CS 499 | *Independent Study* March 2023 - Present

- Graduate Study advised by Professors Ilya Mikhelson and Zhaoran Wang on applied RL in Crypto Futures.
- Built heavily parallelized feature extraction scripts, leveraging Google Jax for 50x speedups over pandas.
- Research and implement 200+ features for recently published Double Ensemble implementation.
- Intent to continue working actively in future quarters, awarded IEMS research grant for network data.

Honors and Awards

2023 UChicago Trading Contest | *Team Lead, 3rd Place Market Making, 5th Place Portfolio Optimization*

Correlation One Terminal Algorithm Contest | *Season 8 Top 100 World, Peak Rank 24*

TXSEF | *State Finalist; Project: Microcontroller Powered Consumer-Scale Martian Biosphere*

Technical Skills

Programming Languages: Python, C++, Java, R, C, Bash, LaTeX
Technologies: UNIX, Ubuntu, Google Jax, Pandas, NumPy, CMake, GTest, Mockito, PyBind, RMD/Jupyter
Developer Tools: Git, GitHub + Actions, Remote Development, AWS, GCP, (Neo)Vim, IntelliJ, CLion