Will Forman

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EXPERIENCE

IMC Trading
Aug. 2023 - Current
Trading Engineer — *Chicago, IL*

- Led project to scale up infrastructure of our execution systems **by 50%**, becoming major company wide project by daily profit generated
- Minimized interruptions to trading operations by diagnosing and fixing critical system issues under high pressure
- Decreased upgrade time across all applications **by 60%** by distributing a process that used to run on one server
- Developed Python applications to automate infrastructure tasks, reducing errors and boosting productivity
- Analyzed post-mortems and proactively resolved recurring issues with our ultra-low-latency systems, involving FPGAs and complex networking setups
- Reduced CI/CD pipeline execution time from **20 to 2 minutes**, increasing developer velocity
- Collaborated with trading, developer, networking, and datacenter teams to deliver on larger desk initiatives

Purdue University
Aug. 2022 - May 2023
NSF REU Research Fellow — *West Lafayette, IN*

- Applied machine learning to distributed systems task scheduling to increase performance in datacenters
- Built and optimized a performant on-premises system to query **30TB dataset** efficiently with Clickhouse

Meta (Facebook)
May 2022 - Aug. 2022
Software Engineer Intern — *Menlo Park, CA*

- Wrote C++ unit test running engine for Instagram's **100k unit tests** to replace previous test engine
- **Invoked 100+ times daily** every time changes are made to Instagram servers
- Improved previous test engine by **decreasing execution time by 2x** and **improving reliability by eliminating inconsistent tests**, reducing Meta's server costs
- Took ownership by meeting with stakeholders and coming up with new features
- Created fork based multi processing system that communicated with Python using inter-process communication

Beat the Book
Aug. 2021 - May 2022
Backend Tech Lead — *Virtual*

- Architected Typescript Express backend for social media application, and deployed with Docker + AWS
- Designed PostgresSQL database schemas and custom authentication to support the application

Amazon
May 2021 - Aug. 2021
Software Development Engineer Intern — *New York, NY*

- Eliminated critical bug that some customers faced by creating a asynchronous processing job with Java Spring
- Increased revenue by adding a new frontend feature in React and executing an AB test to measure the results
- Queried data from **100m row SQL table** and processed efficiently it using multi-threading
- Contributed to reliability with rate limiting for calling other microservices, load testing, and metrics + alarms

PROJECTS

Chess Artificial Intelligence Bot | *Rust*
Jun. 2023 – Current

- Created artificial intelligence program capable of beating human opponents at chess
- Features minimax search, optimized performance (generates **20 million chess positions a second**)

Operating System | *C*
Jan. 2022 – May 2022

- Designed OS with exercises from MIT 6.828, with preemptive multi-tasking and multi-level paging

EDUCATION

Purdue University
West Lafayette, IN
B.S. Computer Engineering — *Aug. 2019 – May 2023*

- Relevant coursework: Data Structures and Algorithms, Operating Systems, Computer Networks, Artificial Intelligence, Compilers, Computer Security

TECHNICAL SKILLS

Languages: C++, Java, Javascript, C, Python, Rust, Go, SQL
Technologies/Other: React, Express, Spring, Docker, Linux, Git, AWS, DS&A, Distributed Systems