Will Forman

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EDUCATION

Purdue University　　　　　　　　　　　　　　　　　　　West Lafayette, IN
B.S. Computer Engineering　　　　　　　　　　　　　　　　*Aug. 2019 – May 2023*
- Bioinformatics Club: Co-Founder and Executive Board member
- Relevant coursework: Data Structures and Algorithms, Operating Systems, Computer Networks, Artificial Intelligence, Compilers, Computer Security,

EXPERIENCE

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
- Implemented fork based multi processing system where every test runs in its own process
- Called Python code from C++ using CPython and used inter-process communication using Linux pipes

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
- Improved test coverage of the code base to 100% by adding missing unit + integration tests

Beat the Book Inc.　　　　　　　　　　　　　　　　　　Aug. 2021 - May 2022
Backend Tech Lead　　　　　　　　　　　　　　　　　　　　　*Virtual*
- Architected Typescript Express backend for sports betting social media, and deployed with Docker + AWS
- Mentored engineers new to our tech stack and created tickets to drive development of our backend
- Designed PostgresSQL database schemas and custom authentication to support the application
- Interacted with 3rd party API to get real time sports data for use in the application

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

PROJECTS

Chess Engine + Multiplayer Platform WebApp | *Rust, Elixir*　　　　Oct. 2022 – Current
- Executes simple Magic Bitboard based chess engine using Rust with minimax and alpha-beta pruning
- Arranges Phoenix Liveview WebApp where users can play against chess engine or other users

Load Balancer | *Go*　　　　　　　　　　　　　　　　　Jun. 2022 – Jul. 2022
- Implemented multi-threaded load balancer for HTTP requests with Round Robin and Least Connections algorithms

Operating System | *C*　　　　　　　　　　　　　　　　　Jan. 2022 – May 2022
- Designed OS with exercises from MIT 6.828, with preemptive multi-tasking and multi-level paging

TECHNICAL SKILLS

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