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

Experience

Meta (Facebook) May 2022 - Aug. 2022
Software Engineer Intern *Menlo Park, CA*
- Wrote C++ CLI test runner for Instagram's **100k unit tests** to replace previous test runner
- **Invoked 100+ times daily** every time changes are made to Instagram servers
- Improved previous test runner by **decreasing execution time by 2x** and **improving reliability by eliminating inconsistent tests**, reducing Meta's server costs
- Took ownership and drove impact by meeting with stakeholders and coming up with new features
- Implemented fork based multi processing system where every test runs in its own process, using Linux syscalls
- Interfaced with Python code from C++ by writing code using the CPython API

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 **10M row SQL table** and processed 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 - Current
NSF REU Research Fellow *West Lafayette, IN*
- Apply machine learning to increase the performance of distributed systems in datacenters
- Collaborating with researchers on Cloud Infra team at Google, working on simulator that mimics Google's servers
- Building big data pipeline with Hadoop and Apache Drill to train machine learning model with **30 TB of data**

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 load balancer for HTTP requests with Round Robin and Least Connections algorithms
- Checks health actively of host using multi-threading, to improve reliability of load balancer

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