ALEXANDER WILSON

07729346947 ◇ acwilson96@gmail.com ◇ rdtscp.github.io

WORK EXPERIENCE

Software Engineer, Meta, London   Jun 2022 - Present
Systems Infrastructure

Software Engineer, Squarepoint Capital, London   Aug 2020 - Jun 2022
Technology - Risk Systems

· Worked on stateless C++ microservices to perform real time processing of trades to track position. Services were highly multithreaded in order to handle millions of trades per day. Made use a pub/sub messaging queues, and KDB databases for real-time and historical data. Services were highly robust.
· Designed, implemented, and tested C++ microservices to accompany position keeping service mentioned above for various bespoke business needs.
· Set up metrics, monitoring and alerting on production services using Prometheus/Grafana/VictorOps.
· Implemented recon/reporting jobs for data parity between old and new systems in order to safely migrate/deprecate legacy systems.

Software Engineer II, FactSet, London   Aug 2018 - Aug 2020
Systems Infrastructure - Database Technologies

· C++: Profiling and analysing in-house database technology to improve read performance and scalability.
· Migrated untested python infrastructure to GitHub adding CI/CD and unit tests.
· Designed and implemented (using TDD) cloud deployed services, monitoring, alerting, and tooling.
· Managed a Software Engineer Intern who re-designed our database technology API for modern C++. The deliverable was well received and the intern received a return offer.

EDUCATION

BSc Computer Science, University of Edinburgh   *Sept 2014 - July 2018*
Topics of Interest: 1st Class with Honours
Compilers, Computer Architecture, Operating Systems, and Programming Languages.

PROJECTS

Microbenchmarking Intel Knights Landing
Wrote C++ with inline x86 to measure latencies and bandwidths of the different memory components of the multicore processor. Extensive research into computer architecture and compilers.

[WIP] Bootstrapping a C/C++ Compiler
Attempting to bootstrap a C/C++ compiler (Lexing, Parsing, Semantic Analysis, Code Gen) from scratch in order to learn more about C++. Implemented some of my own standard libary classes to aid the project.

llvm-dxr
Docker image for DXR to index the LLVM codebase and serve the frontend using docker-compose.

LLVM Dead Code Elimination Pass
Implemented an LLVM pass to eliminate dead code using liveness analysis as part of a university coursework.

SKILLS/INTERESTS

Languages:	C++ 11/14/17, Python 2/3, C, x86, BASH, q/kdb+
Technologies:	Linux, macOS, git, perforce, valgrind, perf, cmake, clang, LLVM, Docker
Misc/Hobbies:	Reported a bug in LLDB related to runtime-thunks.
	Attending C++ London Meetups to keep up to date with new C++ releases/features.
	Teaching myself Piano