

ALEXANDER WILSON

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

WORK EXPERIENCE

Software Engineer II, FactSet, London

Aug 2018 - Present

Systems Infrastructure - Database Technologies

- C++/Python: Used profiling driven methodology to improve database disk footprint and cold read performance by up to 5x (5s to 1s), by using bloom filters. Created a low risk deployment plan to ensure smooth release.
- Migrated untested python infrastructure to GitHub adding CI/CD and unit tests.
- Designed and implemented (using TDD) cloud deployed services, automated processes, monitoring, alerting, and tooling to aid in managing databases on the on-prem clusters.
- Evaluation of systems scalability to on-board new clients or provide substantial new features. Organised meetings and worked with multiple teams globally. Profiling/measuring actual performance of systems.
- Regular maintenance of a legacy codebase. E.G. Bugfixes and refactors.

Software Engineer Intern, KAL, Edinburgh

Jun 2017 - Sept 2017

- C++/C#/.NET: Integrated a legacy C++ app with a newer C apps using .NET. Learnt in-house tooling and application architecture. Presented my work to the entire company to kick off the product's next-gen development.

EDUCATION

BSc Computer Science, University of Edinburgh

Sept 2014 - July 2018

Courses of Interest:

1st Class with Honours

Compiling Techniques, Computer Architecture,

Operating Systems, and Elements of 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 library](#) classes to aid the project.

llvm-dxr

Docker image that uses Debian with [DXR](#) to index the LLVM codebase and serve the frontend webapp using docker-compose. Future plans to deploy on the public cloud and regularly index the LLVM monorepo.

SKILLS/INTERESTS

Languages:

C++ 11/14/17, Python 2/3, C, x86, BASH

Technologies:

Linux, macOS, git, perforce, valgrind, perf, cmake, clang, LLVM, Docker

Misc/Hobbies:

Reported a [bug](#) in LLDB related to runtime-thunks.

Attend C++ London Meetups Regularly and keep up to date with C++ releases.

Teaching myself Piano