ALEXANDER WILSON

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WORK EXPERIENCE

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

· C++/Python: Used profiling driven methodology to improve sharded databases disk footprint and cold-read performance by up to 5x(5s to 1s), by using bloom filters. Migrated untested python infrastructure to GitHub and set up CI/CD with unit tests. Developed tooling for managing databases on the on-prem clusters.

Software Engineer Intern, KAL, Edinburgh   Jun 2017 - Sept 2017

· C++/C#/.NET: Prototyped integrating legacy C++ applications with new C applications. Presented my work to the entire company.

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
Involved writing c++ with inline x86 to evaluate the latencies and bandwidths of the different memory components of the multichip processor.

[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 crudely to aid the project.

llvm-dxr
Created a docker image that uses Debian with DXR installed to index the LLVM codebase and serve the frontend using docker-compose. Created this to learn and navigate the LLVM codebase, with future plans to deploy on the public cloud and regularly index the LLVM monorepo.

SKILLS/INTERESTS

Languages:	C++, 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.
	Keep up to date with c++ releases.
	Self Learning Piano