Daniel Grumberg

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Experience

Apple — 2020 · Remote
Software Engineering Intern (Clang Frontend)

- Benchmarked modules usage in various C++projects as part of `clang-scan-deps` development. This led to a prototype for deduplicating explicit modules based on used header search paths, which for some projects eliminated all redundant modules.
- Refactored `clang -cc1` option parser to support generating command lines from `CompilerInvocation` instances.
- Gave a Lightning Talk at LLVM Developer Meeting 2020 outlining the changes to the option parser.

Apple — 2018 · Cupertino, USA
Software Engineering Intern (Clang Frontend)

- Gained experience with LLVM and in particular with the Link Time Optimisation infrastructure.

Microsoft – Lift London — 2017 · London, UK
Software Engineering Intern (Paint3D Toolkit)

- Worked on a high performance C++ codebase driving graphics in Paint3D, fixed high priority correctness and performance bugs, and made prototypes around new features. I notably halved of the time saving an existing project.
- Involved in Testing Initiative Group focused on improving test quality and infrastructure. This work led to improvements in project structure and test quality and coverage.

Imperial College London — 2016–2018 · London, UK
Undergraduate Teaching and Research Assistant

- Pursued a research summer internship and have continued collaborating with SRG (Software Reliability Group) led by Dr Cadar. This work led to a publication in USENIX ATC'17.
- Taught a weekly programming class for 9 first year students. Topics include functional programming in Haskell and object oriented programming in Java.

Education

Imperial College London — 2018 – 2022 · London, UK
PhD Computing

- Enrolled in HiPEDS (High-Performance and Embedded Distributed Systems) CDT with scholarship.

Imperial College London — 2014 – 2018 · London, UK
MEng Computing

- First Class Honours, Dean's List 3rd and 4th year and Blackrock Human Centered Design prize.
- **Masters Thesis Project:** Developed a dataflow computation framework within the Barrelfish research OS for simplifying programming applications using XeonPhi accelerators. Notable features, include data-location aware scheduling and efficient shared memory synchronisation between distinct memory address spaces.

Skills

Technical

- **Proficient** C · C++ · LLVM · git · Compilers and Linkers
- **Intermediate** CX · C# · Python · Haskell · Bash · Valgrind · QuickCheck · Sanitizers · Swift · Java
- **Basic** Assembly (ARM and x86) · Node.js · MongoDB

Spoken Languages

English · French · Hebrew · German

Publications

Grumberg, D. (2020). *CompilerInvocation to -cc1 command line.* Retrieved from `https://llvm.org/devmtg/2020-09/program/` (LLVM Developers' Meeting)

Pina, L., Grumberg, D., Andronidis, A. & Cadar, C. (2017). A DSL Approach to Reconcile Equivalent Divergent Program Executions. In *2017 USENIX Annual Technical Conference (USENIX ATC 17)* (pp. 417–429). Santa Clara, CA: USENIX Association. Retrieved from `https://www.usenix.org/system/files/conference/atc17/atc17-pina.pdf`