George Burgess IV

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Objective

To obtain a full-time software development position, working on Runtime, OS, or Compiler Development.

Experience

Software Engineering Intern, Google Research **2014-May to 2014-Aug**

- Adapted and Implemented a new Alias Analysis algorithm for the open source LLVM compiler/runtime (C++)
- Worked with the LLVM team for guidance, best practices, and code reviews
- Checked work in to LLVM, which is currently undergoing testing and refinement

Undergraduate TA for Operating Systems, Virginia Tech **2013-Aug to 2014-Dec**

- Held office hours and multiple presentations to help keep students up-to-date with course information
- Wrote mock implementations of each of the OS projects to better understand how to answer questions

Software Developer Intern – .NET, Microsoft **2013-May to 2013-Aug**

- Assisted in reconciling multiple legacy APIs into one more uniform, streamlined API
- Implemented a high-performance part of a core component for the Roslyn C# compiler (C#)

Software Developer Intern – Windows Security, Microsoft **2012-May to 2012-Aug**

- Implemented kernel-mode and user-mode code for applying new security policies to Windows applications (C, C++, C#)
- Created design docs, unit tests, mock UIs, and presentations to ensure minimal friction in feature adoption

Personal Studies and Projects

- **Patent in autonomous data security (US 12/164,844)**
- Studying HotSpot's Just-In-Time (JIT) compiler, with a focus on the optimizations it performs
- Continuing open source work on the LLVM alias analysis project
- Studying Android's new garbage collector implementation, as well as HotSpot's G1 algorithm
- Studied functional programming paradigms of immutability and composition
- Studied transactional memory, concurrency, and parallelism in Clojure
- Studied the C++11 and C++14 memory model, and how concepts in C++ map to x86 instructions
- Played with Linux's memory manager and scheduler to better understand how they work

Education

Virginia Polytechnic Institute and State University **2011-May to present**

- B.S. in Computer Engineering, expected 2015-May – **GPA: 3.72**
- With a CS Minor – **CS Minor GPA: 4.0**