Ian Glen Neal

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Education

University of Texas at Austin **December 2017**

B.S. in **Computer Science**, **Turing Scholars Honors Program**
B.S. in **Electrical Engineering**, **Integrated Circuits Technical Core**
GPA: 3.8240
Related Courses: Graduate Operating Systems, Advanced Computer Architecture, Artificial Intelligence: Honors, Algorithms and Complexity: Honors, Linear Systems and Signals, Operating Systems: Honors, Introduction to Embedded Systems, Circuit Theory, Computer Architecture: Honors

Technical Skills

- Experienced in Java, Python, C++, C
- Exposure to Verilog, Scala, ARM assembly, x86 assembly, Processing, JavaScript, SQL, Ruby
- Frequently use Linux environment, bash, git, perforce for development

Experience

Software Engineering Intern, Google **Summer 2016**

- Designed new optimization for FlumeC++ backend to remove redundant read and write operations
- Modularized design to account for future improvements and proper operation with other optimizations
- Implemented optimization tasks that could be run at any time and still maintain graph invariants

Software Engineering Intern, Tableau Software **Summer 2015**

- Implemented a template processing engine using FreeMarker for generating server configurations
- Wrote Puppet manifests to deploy product code and support software
- Created extensive validation tests for existing and new systems and automated current infrastructure

Software Engineering Intern, Tableau Software **Summer 2014**

- Created ETL scripts to recover and transform product usage data for internal analysis
- Repaired and maintained existing data set for use by marketing and quality assurance teams
- Extracted data from varied data sources for import into Hive and Impala

Projects

R4Diant [Java]

- Worked with a team to prototype an open world exploration game in a style similar to Minecraft
- Optimized world loading using parallel processing to compensate for large world sizes.
- Created our own compression system for faster loading times and reduced file sizes for saved worlds

Advanced Computer Architecture [Verilog]

- Designed pipeline and out-of-order issue processors in Verilog
- Optimized processor designs using forwarding, caching, and static/dynamic branch prediction

Pacman AI [Python]

- Implemented several autonomous agents to play games of Pacman and variants on Pacman
- Utilized various types of search, inference, learning, and classification in the design of the agents

GheithOS [C++]

- Designed a simple operating system and shell by implementing common kernel abstractions
- Built a memory management system, file system, threads, and executable loading abilities

Web Crawler [Java]

- Designed a web page parser to crawl and index web pages for a search engine
- Created a search engine to process logical queries and retrieve crawled pages from a database