Samuel Nigh

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A graduate of Computer Science with deep Pittsburgh roots that has relevant project and work experience throughout the stack seeking to increase skills and capabilities to build great products.

Education

University of Pittsburgh Main Campus, Pittsburgh PA August 2014 to Present

- Major Computer Science, minor Italian Studies (completed).
- 3.61 GPA, Dean's List all terms.
- Activities: Computer Science Club (Events Coordinator officer), National Society of Leadership and Success.
- Six-week study abroad program for Italian Studies in Rome, Summer 2015.

Anticipated graduation date: April 2018

Employment Experience

Embedded Systems Intern, Timesys Inc. May, 2017 to August, 2017

- Assigned to embedded systems team driving customer and vendor requests for improvements.
- Designed, completed, verified, and debugged automated driver testing for Timesys Factory board support packages.
- Updated and maintained resources and documentation for LinuxLink web interface.
- Assisted with management and automation of office board farm and other office resources and equipment.
- Assisted with configuration of an instance of the Linaro Automated Validation Architecture for a customer using Docker Compose and a Raspberry Pi.

Quality Engineering Intern, Smith Micro Software Inc. May, 2016 to August, 2016

- Designed test sets and test cases for QuickLinks Mobile VPN Client using SpiraTeam.
- Built and Ran automated validation for each new build of Quicklinks on various Windows operating systems.
- Using Jira, wrote tickets for bugs uncovered in the testing process and tracked them through resolution.

Project Experience

Computer Science Club Work

- **Pantherview Mobile App:** Collaborative Computer Science Club Project mobile application. Fetches data via REST API's from the Western Pennsylvania Regional Data Center and a club-maintained Pitt API hosted by Amazon Web Services. The app provides a user-filterable map view of the underlying data including police incident records and information about Pitt services. Link: http://pittcsc.org/PantherView (Language: Javascript)

Operating Systems Project Work

- **Semaphores/System Calls:** Built system call semaphores in a 2.6 linux kernel as building blocks for thread synchronization and IPC to solve the producer/consumer problem. (Language: C)

- **File System Primitives:** Implemented a file system via Linux FUSE (Filesystem in User SpacE) including block allocation, via linked-list allocation scheme, and operations including read/write, mknod, mkdir, readdir and getattr (stat). (Language: C)

Computer Architecture Project Work

- **Cache Simulator:** Designed and built a user-specified one-level cache simulator (direct-mapped, full-associative, n-level associative) including read/write and read-only variants and block-level replacement algorithms along with relevant statistics including hit and miss rates for various types including compulsory, conflict and capacity. (Language: C)

Networking Project Work

- **Web Server:** Built an HTTP client/server over TCP/IP sockets to allow a user to specify hostname, port and file name path and retrieve the selected payload, properly formatted.
- **Multi-connection Web Server**: Designed and implemented a multi-connection server using TCP/IP sockets to serve files to clients including the implementation of a simple select-based connection scheme. (Language: C++)

Algorithms Project Work

- **LZW Compression/Expansion System:** Built the system including various compression modes that would reset the compression dictionary data structure, retain it, or reset it once below a certain compression ratio threshold. (Language: Java)

Code Day Pittsburgh, November 11-12, 2017

- Co-led planning and execution for the Pittsburgh instance of “Code Day”, a nationwide 24 hour event, with 50 local participants from High Schools and Universities.
- Led day-of planning and responsible for expense management.
- Led workshop on basics of game elements and design.
- Mentored various teams throughout the event.
- Co-led “Code Cup”, a nationwide problem solving competition between cities participating in Code Day.

Summary of Qualifications

Skilled in various programming languages and Linux system administration.

- C (proficient, preferred)
- Java (proficient)
- Javascript (familiar)
- Go (familiar)
- HTML (proficient)
- C++ (proficient)
- Python (familiar)
- Docker (familiar)

Interests and Activities

- Bass player in a swing pop band
- Audio engineering and music production
- Embedded systems development
- GNU / Linux Programming (Familiar with Debian, Arch Linux, Ubuntu, Mint, Raspbian) and system administration
- Development & operations (DevOps)