

Samuel Nigh

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I am a graduate of Computer Science with deep Pittsburgh roots that has broad project and work experience in embedded software development, test automation, distributed systems, and web applications. I am interested in joining an organization that provides opportunities to deepen my knowledge and improve my skills.

Education

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

- Major Computer Science, minor Italian Studies (completed).
- 3.62 GPA, Dean's List Freshman year, Sophomore year, Junior Spring 2016.
- 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 engineering team responsible for incorporating customer and vendor requested enhancements.
- 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.
- Developed and executed manual and automated validation for each new build of Quicklinks on various Windows operating systems.
- Used JIRA to file and track resolution of issues discovered during test cycle.

Project Experience

Computer Science Club Work

- **Pantherview Mobile App:** Collaborative Computer Science Club Project web 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

- **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++)

Current Projects

- **Cluster Computing Research with ClusterHAT:** Current project in Advanced Systems Software using a Raspberry Pi 3 and a HAT (Hardware Attachment on Top) that allows it to interface with up to four Raspberry Pi Zeros. The purpose is to and design create a distributed computing infrastructure that fits in the palm of your hand, as well as a performance testing suite that measures performance with different configurations and workloads.

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.
- Provided basic mentoring to teams.
- 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.

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| • C (proficient, preferred) | • HTML (proficient) |
| • Java (proficient) | • C++ (proficient) |
| • Javascript (familiar) | • Chef (familiar) |
| • Golang (familiar) | • Docker (familiar) |
| • Amazon Web Services (familiar) | • C# (familiar) |

Interests and Activities

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