Joel S. Williamson

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PROGRAMMING SKILLS

Extensive development experience in C++, C, Java, Typescript
TCP, UDP and IP networking
Tools include Linux (Ubuntu, Red Hat, Centos, Arch), Git, Jenkins, GDB, Android, JIRA, Ionic

WORK EXPERIENCE

Carnegie Technologies – Software Developer   February 2017 - Present

SatBridge App
- Created Android and iOS apps to use satellite terminal
    - Used Cordova and Ionic to develop unified cross-platform UI
    - Wrote unit tests with Jest to enable rapid iteration
    - Developed platform-specific plugins to allow intelligent network switching

Link Aggregation Client
- Developed Android-based VPN client
    - Integrated existing SDK into TypeScript based user interface
    - Extended SDK with new features and bug-fixes
    - Tested using Appium testing framework.
- Created Linux test client
    - Extensible client designed to efficiently test aggregation server
    - Performance and correctness testing of new TCP-like protocol
- Improved server congestion control
    - Developed congestion control algorithm to optimize usage of multiple networks
- Maintained VoIP client
    - Worked with client company to maintain and update calling app
    - Integrated with market-leading open source SIP client

Exinda Networks – C/C++ Software Developer   August 2015 - October 2016

Centos-based WAN Optimization firmware
- Integrated major Deep Packet Inspection software upgrade from external vendor
    - Implemented comprehensive test suite to ensure functionality was preserved
    - Rewrote core interface to take advantage of event-based architecture
- Created system to allow L7 classification engine to be upgraded independently of base system
- Led development of automatic deployment to virtual hosts
    - Used Python, Powershell and VMOMI to manage ESXi and HyperV virtual appliances
- Improved build and continuous integration processes
- Fixed bugs in Tcl-based web frontend.

INDEPENDENT PROJECTS

Bimap – Contributor and maintainer of two-directional lookup package for Haskell Hackage

Project Euler – Computational math problems, Top 80 in Canada

EDUCATION

University of Waterloo   September 2009 – December 2014
Computational Science, Specialization in Physics