Jake Nielsen

Mechatronics Engineer

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github.com/jknielse

Skills

Languages **Node.js**, Python, Bash, Swift, Objective-C, C#, C, C++, Scheme, Assembly

Software **Git**, SVN, Visual Studio, X-Code, Vim, Windows, Linux, Mac

Work Experience

Jan 2016 - Present **Full Stack Engineer (Node.js)**,
JetDiamond Inc, San Mateo.
Development and maintenance of backend services for integrating with Gmail, Dropbox, Outlook.
Development of node modules to facilitate file syncing, persistent cargos, CPU usage throttling, etc.
Maintenance of backend infrastructure (Elasticsearch, PostgreSQL, Redis).

Aug 2014 - Dec 2015 **Software Tools Engineer (Python, Swift)**,
Apple Inc, Cupertino.
Development and maintenance of Safari and WebKit's CI systems (driven by Buildbot).
Developed tool for locally testing the CI system (previously tested in-production).
Developed tool for machine provisioning to save developer time spent manually reimaging mac minis

May 2013 - Aug 2013 **Firmware Engineer Intern (C#, C++)**,
Virtium Inc, Rancho Santa Margarita.
Development of IPC library capable of up to 7GB/s throughput.
Further development of continuous integration unit testing for SSD firmware.
Received an **outstanding** on work evaluation.

Sept 2012 - Feb 2013 **Mobile Software Engineering Intern (Objective-C, Node.js, Mongoose)**,
Rebellion Media Inc, Waterloo.
Development of iOS apps from mock-ups, and associated backend dev.
Received an **outstanding** on work evaluation.

Jan 2012 - Apr 2012 **Cofounder and Software Developer (Objective-C)**,
Crouton Labs Inc, Waterloo.
Developing iOS applications to allow restaurant customers to order and pay for food.
Ruthless attention to look-and-feel.
Received an **outstanding** on work evaluation.

May 2011 - Aug 2011 **Manufacturing Software Engineering Intern (TCL)**,
Sandvine Inc, Waterloo.

May 2010 - Aug 2010 **Software and Hardware Developer Intern (C++, VB.Net)**,
University of Waterloo.

Sept 2010 - Dec 2010 Developing hardware and firmware for an experimental configurable 3D pressure-sensing surface.
Developing firmware, and software for an experimental 3-axis CNC lathe, and a 3D scanner.
Received an **outstanding** on work evaluation.

Projects and Competitions

Autonomous Boat Designed the hardware, software, and PID control system for a boat capable of autonomously navigating a water-course.

VeloCity Entrepreneurial Incubator Returning resident at VeloCity, which helps students who are working on start-ups, by providing funding, mentorship and a collaborative environment.

Education

2009 - 2014 **Mechatronics Engineering**,
University of Waterloo.
Relevant Courses: RTOS, Sensors and Instrumentation, SISO Control Systems, MIMO Control Systems, Autonomous Mobile Robotics, Mechatronic System Integration