

# Jake Nielsen

## 4B Mechatronics Engineering

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📄 [github.com/jknielse](https://github.com/jknielse)

### Skills

**Languages** Objective-C, C, C#, C++, Bash, Python, Javascript, Scheme, Assembly  
**Software** Git, SVN, Visual Studio, X-Code, Vim, Windows, Linux, Mac

### Work Experience

- May 2013 - Aug 2013 **Firmware Engineer,**  
*Virtium Inc*, Rancho Santa Margarita.  
Development of IPC library capable of up to 7GB/s throughput with C++.  
Further development of continuous integration unit testing in C#/C++ for SSD firmware.  
Received an **outstanding** on work evaluation.
- Sept 2012 - Feb 2013 **Mobile Software Engineering,**  
*Rebellion Media Inc*, Waterloo.  
Development of iOS apps from mock-ups.  
Backend development using nodejs and mongoose.  
Received an **outstanding** on work evaluation.
- Jan 2012 - Apr 2012 **Cofounder and Software Developer,**  
*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,**  
*Sandvine Inc*, Waterloo.  
Writing and maintaining TCL scripts for quality control.  
Troubleshooting hardware in the event of test failures.
- May 2010 - Aug 2010 **Software and Hardware Developer,**  
*University of Waterloo*.  
Developing hardware and firmware for an experimental configurable 3D pressure-sensing surface in C++ and Visual Basic.  
Developing firmware, and software for an experimental 3-axis CNC lathe, and a 3D scanner in C++ and Visual Basic.  
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.
- Computing Collective** Worked on start-up that commercializes the grid computing space, winners of the \$25,000 Velocity Venture Fund competition.  
(Co-founder) Involved in the software development of said platform in python.
- 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 - Present **Mechatronics Engineering,**  
*University of Waterloo*.  
Relevant Courses: RTOS, Sensors and Instrumentation, SISO Control Systems, MIMO Control Systems, Autonomous Mobile Robotics, Mechatronic System Integration