CONNOR SMITH

Cand. for BASc in Mechatronics Engineering
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I will be graduating April 2015, and am seeking challenging work in the fields of manufacturing, automation, robotics and vehicles. I pick up new skills quickly, have a strong work ethic and love hands-on projects. For additional information about me, and projects I've worked on head to connorsmith.github.io/projects/.

SKILL SET

- SolidWorks, NX, MasterCAM
- Machining and prototyping
- Technical drawings and freehand sketching
- Knowledge of manufacturing processes, material properties and design principles
- MATLAB, Python and C/C++
- ROS (Robot Operating System)
- Mapping, state estimation and path planning algorithms for robotics
- Control algorithms, including digital and multivariable systems
- Microcontrollers and circuit design
- Project management and report writing

KEY QUALIFICATIONS

- Able to design, prototype and debug mechanical, electrical and software systems
- Proficient at modelling, simulation, visualization and analysis for various systems
- Capable of working on a tight schedule, both independently and as part of a team
- Self-driven, with a proven ability to learn new skills quickly and apply them

WORK EXPERIENCE

Thalmic Labs Inc. - Machine Learning Engineer;
Kitchener, Canada — May 2014 - August 2014 (4 months)

At Thalmic Labs, I worked on numerous aspects of the classification algorithms responsible for gesture recognition on the Myo armband. Using MATLAB, I developed parts of the benchmarking system used to evaluate the effects of various parameters and the performance of different methods.

Singapore University of Technology and Design - Undergraduate Researcher;
Singapore, Singapore — August 2013 - December 2013 (4 months)

In Singapore, I developed and implemented a Kalman filter-based algorithm for estimating the mass of an electric vehicle in real time, solely using information available on the CAN bus, achieving an estimate accuracy of 1.5% absolute mass. Aspects of this project included data fusion, on-road testing and CAN bus characterization for the test vehicle (Mitsubishi iMiEV).

Computational Neuroscience Research Group - Undergraduate Researcher;
Waterloo, Canada — January 2013 - April 2013 (4 months)

My main research focus was on autoassociative (cleanup) memory for symbolic manipulation realized in spiking neurons, and how to implement a learning rule to simulate the acquisition of new concepts. I also worked with reinforcement learning algorithms to simulate rat behaviour in a virtual environment designed in Blender.

Research In Motion Limited (now BlackBerry) - DSP Software Developer Intern;
Waterloo, Canada — May 2012 - August 2012 (4 months)

Using MATLAB, I worked on a system for analyzing the interference and sensitivity performance of signal processing algorithms against 3GPP specifications. I also was responsible for refactoring and optimizing various signal processing functions in C.

P&P Optica Inc. - Junior Design Engineer;
Waterloo, Canada — September 2011 to December 2011 (4 months)

I created parts, assemblies and technical drawings of various optical-mechanical components, such as shutter holders or grating wedges using SolidWorks. Working at a startup also meant helping out wherever possible, including building a guard rail and prepping a Class 1000 clean room.

Natural Resources Canada - Software Developer;
Ottawa, Canada — January 2011 to April 2011 (4 months)

I developed graphical user interfaces (GUIs) in C++ using a toolkit called wxWidgets. The GUI's form the modules of a program which is used to perform various analyses on hyperspectral data cubes acquired through remote sensing techniques.

EDUCATION

Candidate for Bachelor of Applied Science, Honours Mechatronics Engineering
University of Waterloo, Waterloo, Canada (September 2010 - Present): 90% CGPA

Relavent courses:
ME 597 - Autonomous Mobile Robotics
ME 548 - Numerical Control of Machine Tools
ECE 488 - Multivariable Control Systems
ECE 484 - Digital Control Applications

AWARDS

2013-2014 Engineering Faculty/Staff Upper Year Scholarship

2012-2013 NSERC Undergraduate Student Research Award

2011-2012 Engineering Faculty/Staff Upper Year Scholarship

2010-2011 University of Waterloo President's Scholarship

ABOUT ME

I love travelling, experiencing new cultures and learning languages — I speak French, and I'm working on my Italian and German. My hobbies are reading (Dune and The Fountainhead are my favourite books), sketching (buildings mostly), cycling, and board games (Power Grid is a recent favourite). The prospect of tackling interesting problems, developing new skills and gaining experience is what gets me out of bed in the morning. For more information about me, head to connorsmith.github.io/about.