ANGUS LEIGH

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EDUCATION

M.Sc., Computer Science, McGill University, Montreal, QC *2013–present*
Specialization in robotics, machine learning and computer vision. Advisor: Joelle Pineau.

B.A.Sc., Systems Design Engineering, University of Waterloo, ON *2008–2013*
German minor. Cumulative GPA: 87%.

Study Abroad Semester, Technische Universität Braunschweig, Germany *Oct, 2011–Mar, 2012*
Completed full engineering course load in foreign language.

ACADEMIC RESEARCH EXPERIENCE

Graduate Researcher 2013–present
McGill University *Montreal, QC*

· Developing vision, navigation and control techniques for an autonomous powered wheelchair.
· Emphasis on fast prototyping of state-of-the-art techniques and testing/breaking existing algorithms in the real-world to focus research on areas of highest practical impact.

Undergraduate Research Assistant (part-time) May–Aug, 2011
University of Waterloo *Waterloo, ON*

· Updated a muscle fiber action potential simulator to reflect recent findings in the literature.

Undergraduate Research Assistant (part-time) Sept–Dec, 2010
University of Waterloo *Waterloo, ON*

· Created a novel method for comparing image noise reduction and estimation techniques.

PUBLICATIONS

A. Leigh and J. Pineau, "Laser-based Person Tracking for Clinical Locomotion Analysis", *IROS Workshop on Rehabilitation & Assistive Robotics*, Chicago, Illinios, USA, 2014.

A. Leigh, A. Wong, D. A. Clausi and P. Fieguth, "Comprehensive analysis on the effects of noise estimation strategies on image noise artifact suppression performance", *IEEE International Symposium of Multimedia*, Dana Point, California, USA, 2011.

DEMONSTRATIONS

M. Gerdzhev, J. Pineau, **A. Leigh** and A. Sutcliffe, "SmartWheeler - A smart robotic wheelchair platform", demonstrated at *Neural Information Processing Systems (NIPS)*, Montreal, Canada, 2014.

WORKS SUBMITTED OR UNDER REVIEW

A. Leigh, J. Pineau, N. Olmedo and H. Zhang, "Person Tracking and Following with 2D Laser Scanners", *Submitted to the International Conference on Robotics and Automation (ICRA)*, submission number: 1523, date submitted: Oct. 1, 2014.

INDUSTRY EXPERIENCE

Robotics Engineering Student Developer Apr–Aug, 2012
Siemens Corporate Research and Technologies *Munich, Germany*

- Developed a simulated robotic model of a new concept of electric car using C++, Robot Operating System (ROS) and Unified Robot Description Format (URDF).
- Researched and implemented low-and high-level control systems for driving and steering, including a non-holonomic trajectory follower to allow for autonomous driving.

Systems Design Engineering Student Jan–Apr, 2011
Durridge Co. *Billerica, MA, USA*

- Multi-task development of a novel Radon-detection device, including modification of electrical schematics in EAGLE, writing firmware in C and placing product orders with manufacturers.

Design Engineering Student May–Aug, 2010
Automation Engineering Associates *Toronto, ON*

- Designed, coded, tested, and troubleshot control programs for automating commercial and residential heating, cooling and ventilation systems.

.NET Programmer Sept–Dec, 2009
Human Resources Canada *Ottawa, ON*

Engineering Assistant Jan–Apr, 2009
Hatch Ltd. *Mississauga, ON*

TEACHING EXPERIENCE

Teaching Assistant 2014
COMP-598: Applied Machine Learning *McGill University*

- Delivered guest lecture on online learning.

AWARDS

Graduate Research Award *2014*
Tenured at McGill University

McGill Graduate Excellence Award *2013*
Tenured at McGill University

NSERC Canada Graduate Scholarship - Master's *2013*
Tenured at McGill University

Ontario Graduate Scholarship *2013*
Not tenured

Best design project of 4th year engineering class (tied) *2013*

Wilfred L. Bitzer Award *2011*
For outstanding exchange students to Germany

Engineering President's & Entrance Scholarships *2008*
Tenured at the University of Waterloo

Queen Elizabeth II Provincial Scholarship *2008*
Tenured at the University of Waterloo

VOLUNTEER EXPERIENCE

Robotics Competition Referee Mar, 2014
First Lego League *Montreal, QC*

· Observed matches to ensure fair play and a smoothly operating tournament. Single day.

Bicycle Repair Mentor 2012–2013
University of Waterloo *Waterloo, ON*

· Responsible for the university's student bicycle shop for two hours per week.
· Helped customers in a fast-paced environment and used my bicycle repair expertise to mentor them on various bicycle repair techniques.

SKILLS

Programming	Python, C++, MATLAB, C (firmware)
Robotics	ROS, OpenCV, Gazebo, URDF
Computer	Linux, Git, LaTeX
Languages	English (native), German (fluent but rusty), French (intermediate)

HOBBIES

Acoustic guitar, sports, building and flying radio controlled planes, catamaran sailing and bicycle touring (two months from Vancouver to Tijuana).