

Nick Hetherington

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Robotics Master's student experienced in prototyping and user interaction research with mobile robots.
Seeking full-time opportunities.

EDUCATION

Master's in Human-Robot Interaction

Graduating August 2020

M.A.Sc. in Mechanical Engineering, University of British Columbia

Vancouver, BC

- Thesis: "Communication Cues for Mobile Robots in Pedestrian Spaces"
- First Class Standing (88% avg.)
- NSERC research scholarship (\$17,500), BC Government Scholarship (\$15,000)

Bachelor's in Robotics, Systems, and Control

Sept. 2012 - May 2017

B.A.Sc. in Electrical Engineering, Queen's University

Kingston, ON

- First Class Honours and Dean's Scholar Award (87% avg.)
- Chancellor's entrance scholarship (\$36,000)

ENGINEERING EXPERIENCE

Communication Cues for Mobile Robots in Pedestrian Spaces

Sept. 2018 - present

Master's Research Project, University of British Columbia

Vancouver, BC

- Designed visual and kinetic cues for a mobile robot to communicate with pedestrians
- Conducted two user studies to evaluate social acceptance of cues
- Presented a poster at the ICRA 2019 Workshop on Human Movement Science for Physical HRI (1st author)

Pedestrian Following for Autonomous Navigation with Mobile Robots

May - Aug. 2018

Master's Research Project, University of British Columbia

Vancouver, BC

- Co-designed a person-following navigation method for a mobile robot
- Adapted a learned multi-agent policy for collision avoidance on a sidewalk
- Presented a poster and paper at ICRA 2019 (2nd author)

UAV Indoor Guidance System

Apr. 2015 - Apr. 2017

Undergraduate Capstone Project, Queen's University

Kingston, ON

- Designed and implemented a control and navigation system for a quad-rotor to follow walls
- Awarded 3rd place, IEEE Eastern Ontario Student Paper Competition 2017

Electrical Design Lead & Project Manager for Autonomous Sailboat

May 2014 - Jun. 2015

Robotic Sailboat Design Team, Queen's University

Kingston, ON

- Managed 12 students designing the onboard electrical systems for a 2 m robotic sailboat
- Placed 2nd at the International Robotic Sailing Regatta, St. John's Newfoundland June 2015

Industrial Automation Systems Designer

Sept. 2015 - July 2016

Internship, Grantek Systems Integration

Richmond, BC

- Implemented process and supervisory control systems for food and beverage plants
- Programmed PLCs, built GUI screens, commissioned systems and trained operators

SKILLS

- *Programming*: C++ 11; Python 2.7; Arduino; Git
- *Prototyping*: ROS Kinetic; Ubuntu 16; electrical building; human-centred design
- *Research*: user study / experiment design; data analysis and visualization

TEACHING EXPERIENCE

Software Design for Mechanical Engineers MECH 550C/575A, University of British Columbia - Facilitated C# programming exercises	Sept. - Dec. 2018 Vancouver, BC
Software Tools for Mechanical Engineers MECH 220S, University of British Columbia - Facilitated exercises and marked assignments in Arduino, MatLab, and SolidWorks	Sept. - Dec. 2018 Vancouver, BC
Introduction to Computer Programming for Engineers APSC 142, Queen's University - Facilitated RobotC exercises and marked projects with miniature mobile robots	Jan. - Apr. 2015, 2017 Kingston, ON
Technical Communication for Mechanical Engineers MECH 227, University of British Columbia - Supervised literature review project; marked assignments	July - Aug. 2019 Vancouver, BC
Mechanical Engineering Design Project MECH 223, University of British Columbia - Led tutorial sessions; facilitated design competition; marked assignments and test	Jan. - Apr. 2019 Vancouver, BC

LEADERSHIP EXPERIENCE

Supervisor for Student Research Collaborative Advanced Robotics and Intelligent Systems Lab, UBC - Provide research guidance and technical support for projects by six different students	Jan. 2019 - present Vancouver, BC
Director of Outripping Leadership Development Counsellor YMCA Camp Elphinstone - Directed overnight canoeing and hiking trips and managed 3 guides; co-managed 100 staff - Designed and led two 28-day leadership development programs for teens - Worked with campers with invisible disabilities; HIV/AIDS; type-1 diabetes - Received two awards from management	Summers 2011 - 2017 Gibsons, BC
Class President Council Speaker Board of Directors Queen's University Engineering Society - Chaired a committee of 15 organizing events for 670 peers (Class President) - Chaired council meetings of 30 peers representing 2500 constituents (Council Speaker) - Sat on the advisory board of the not-for-profit Queen's Campus Bookstore (Board of Directors) - Received three service awards from peers	Sept. 2012 - Apr. 2017 Kingston, ON
Adaptive Ski Instructor Vancouver Adaptive Snow Sports - Teach skiing techniques to students with physical and mental disabilities	Jan. 2020 - present Vancouver, BC
Mountaineering Instructor Varsity Outdoors Club, University of British Columbia - Teach rock climbing and glacier travel skills to peers	May 2019 - present Vancouver, BC