Wei-Di Chang

Curriculum Vitae

1255 Rue de Bullion, Apt. 805
Montréal, QC H2X 0B9
(514) 575 1226
chang.weidi@gmail.com
weidi-chang.github.io

Education

2018–Present **PhD - Computer Science**, *McGill University*, Montreal, Canada.
Thesis supervisor: Gregory Dudek

2016–2018 **Masters of Engineering with Thesis - Electrical and Software Engineering**, *McGill University*, Montreal, Canada.
Thesis supervisors: Gregory Dudek and Michael Rabbat

2012–2016 **Bachelor of Engineering - Computer Engineering**, *McGill University*, Montreal, Canada.

2012 **French Baccalaureat - Scientific Section with Mathematics Specialization**, *Lycée Francais International de Pékin/Beijing French School*, Beijing, China.

Publications

AAAI '18 Peter Henderson, **Wei-Di Chang**, Pierre-Luc Bacon, David Meger, Joelle Pineau, Doina Precup, "OptionGAN: Learning Joint Reward-Policy Options using Generative Adversarial Inverse Reinforcement Learning", 2018.
Association for the Advancement of Artificial Intelligence Conference 2018, New Orleans, Louisiana, USA

ICML '17 Peter Henderson, **Wei-Di Chang**, Florian Shkurti, Johanna Hansen, David Meger, Gregory Dudek, "Benchmark Environments for Multitask Learning in Continuous Domains", 2017.
Lifelong Learning: A Reinforcement Learning Approach Workshop, International Conference on Machine Learning 2017, Sidney, Australia

IROS '17 Florian Shkurti, **Wei-Di Chang**, Peter Henderson, Md Jahidul Islam, Juan Camilo Gamboa Higuera, Jimmy Li, Travis Manderson, Anqi Xu, Gregory Dudek, Junaed Sattar, "Underwater Multi-Robot Convoying using Visual Tracking by Detection", 2017.
IEEE/RSJ International Conference on Intelligent Robots and Systems 2017, Vancouver, Canada

Technical Experience

September 2016–Present **Software Developer (Part-Time)**, Independent Robotics, Montreal, Canada.
- Eliminated dependencies on legacy code for the Aqua robot's ROS navigation stack
- Tested and installed control and vision on-board computers for the Aqua robot

September 2015–September 2016 **Software Division Co-Lead**, McGill Robotics, Montreal, Canada.
Managed a team of 90 students in the software development of three parallel projects for international robotics competitions : A 6-wheeled Mars Rover, an Autonomous Underwater Vehicle, and an autonomous fixed wing drone.
- Designed a software architecture shared across all 3 vehicles to eliminate redundancies
- Ramped up new recruits through software tutorials (ROS, Python, *NIX Shell)
- Oversaw the development and integration of state estimation, computer vision, planning, and control algorithms across multiple teams
- Liaised with team faculty advisors
- Coordinated designs and developments with Electrical and Mechanical divisions

November 2014 **Code Jam**, McGill University, Montreal, Canada.
Implemented a facial recognition algorithm in Python in 48 hours in a team of three members. Ranked top 10 out of 60 teams.

September 2014– September 2015 **State Estimation Developer**, McGill Robotics, Montreal, Canada.
Developed software for an Autonomous Underwater Vehicle competing in the 2015 AUVSI Robosub competition in San Diego as part of a team of 70 students from various backgrounds
- Implemented an Unscented Kalman Filter and various localization algorithms in C++
- Data collection and characterization of various on-board sensors (Gyroscope, Accelerometer, Magnetometer, Depth Sensor, Sonar)
- Developed filter-based computer vision algorithms using OpenCV for onboard cameras

Summer 2014 **Summer Intern**, *GAORFID*, Toronto, Canada.
- Conducted initial research work and implementation for the AUTO-ID Engine/ERP Integration prototype
- Realized and tested the Bombardier Train Manual Speed Control project

Relevant Coursework

COMP 767: Reinforcement Learning, McGill University.

COMP 765: Robotics, McGill University.

COMP 551: Applied Machine Learning, McGill University.

ECSE 507: Optimization, McGill University.

ECSE 456/457: Design Project, McGill University.
"Localization using Electrical Network Frequencies", supervised by Prof. Rabbat and Prof. Labeau to participate in the 2016 IEEE Signals Processing Cup

ECSE 415: Introduction to Computer Vision, McGill University.

ECSE 404/ECSE 495: Control Systems Theory and Laboratory, McGill University.

COMP 310: Artificial Intelligence, McGill University.

Computer skills

Advanced	Robot Operating System (ROS), C, C++, python, PyTorch, Tensorflow
Intermediate	java, html/CSS, VHDL, Assembly, LaTeX, *NIX Shell, Matlab
Basic	C#, Adobe Photoshop, Illustrator, Lightroom

Languages

French	**Mothertongue**	
English	**Native**	*Bilingual Proficiency*
Mandarin	**Native**	*Bilingual Proficiency*
Spanish	**Intermediate**	*Conversational Proficiency*

Interests

- Photography
- Martial Arts
- Reading
- Cycling
- Violin
- Music Production