Louis L. W. D. Pahlavi

PERSONAL DETAILS

Nationality French, Canadian
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lpahlavi.github.io

LANGUAGES

English
French
Italian
German
Czech

TECHNICAL SKILLS

Build tools	Makefile, CMake
Version control	Git
Platforms	Linux, Raspberry Pi, Arduino
Libraries	Boost, QT, CVX, Tensorflow
Theory	Control theory and robotics, Networking, Optimization, Algorithms and data structures, Machine learning

PROGRAMMING LANGUAGES

C/C++
Python
MATLAB
Java

EDUCATION

University of Toronto, BASc in Computer Engineering
September 2014–April 2019

- Minor in Robotics and Mechatronics
- Final Project: *Distributed Formation Control of a Swarm of Unicycles*
- 16 month internship between third and fourth years of studies
- Latest term 92.1% average (ranked 4 out of 173), 3.86/4.00 CGPA

RESEARCH AND INDUSTRY EXPERIENCE

Systems and Control Engineering Intern May 2017–August 2018
Verity Studios AG Zürich, Switzerland

- Worked on improving the onboard estimation and control algorithms of swarms of quadcopters implemented in C++.
- Evaluated and characterized flight performance and effectiveness of calibration routines using Python and successfully improved drone production pipeline.
- Serviced entertainment drone show systems overseas and personally oversaw flight operations for several weeks.
- Maintained and improved offboard control and housekeeping applications including Graphical User Interfaces (GUIs).

Researcher May 2016–August 2016
ETH Zürich Laboratory for Biosensors and Bioelectronics Zürich, Switzerland

- Developed the control and image processing software for a biosensor measuring protein interactions in fluids.

- Created a GUI using QT to control the actuators and interface them with various sensors including a live camera feed and calibration procedures.
- Experimented on the growth of networks of living animal neurons.

Radio Frequencies Engineer June 2015–September 2015

University of Toronto Institute for Aerospace Studies - Space Flight Laboratories Toronto, Canada

- Designed and simulated the early prototypes of a deployable antenna mounted on the NORSAT-2 maritime communications satellite (launched in 2017) in collaboration with the European Space Agency.
- Built, tested and tuned antenna prototypes including validation using a Vector Network Analyzer (VNA).

Researcher May 2015–June 2015

University of Toronto Reconfigurable Antenna Laboratory Toronto, Canada

- Created a MATLAB simulation to model a satellite's orbit and predict antenna radiation intensity on the surface of the Earth. Worked on antenna synthesis to find an antenna array for a given desired coverage area.

PROJECTS AND TEACHING

Capstone Team Lead September 2018–April 2019

University of Toronto Faculty of Engineering Toronto, Canada

- Implementing a fully distributed algorithm for the formation control of a swarm of wheeled robots in C++.
- Built and tested the communication interfaces between onboard modules and C++ and Python applications.
- Developed a Python simulation framework to test and tune the control algorithms.

Teaching Assistant September 2016–December 2016

University of Toronto Faculty of Engineering Toronto, Canada

- Taught APS100 – 'Orientation to Engineering' to first year Electrical and Computer Engineering students.

Wireless Communications Lead September 2014–June 2016

University of Toronto Aerospace Team (Space Systems) Toronto, Canada

- Designed, built and tested the antenna and communication module PCB, on a student-built nano-satellite.
- Presented our design at several Product Design Reviews and the Critical Design Review in Vancouver.

Ground School Instructor September 2014–January 2015

330 Danforth Tech Royal Canadian Air Cadet Squadron Toronto, Canada

- Coordinated and taught the pilot ground school course at 330 Danforth Tech Royal Canadian Air Cadet Squadron leading several of my students to earn their pilot wings.

SCHOLARSHIPS AND AWARDS

- **Faculty of Applied Science and Engineering Dean's Honours List** 2014–Present
- **Gordon R. Slemon Scholarship** – Awarded for engineering design and academic excellence 2016
- **University of Toronto International Exchange Bursary** 2016
- **University of Toronto Centre for International Exchange Award** 2016
- **Royal Canadian Air Cadet Power Pilot Scholarship** 2014
- **Royal Canadian Air Cadet Glider Pilot Scholarship** 2013