Louis L. W. D. Pahlavi

PERSONAL DETAILS

Nationality French, Canadian
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LANGUAGES

English
French
Italian
German
Polish

TECHNICAL SKILLS

Python | C/C++ | MATLAB | Java

Build tools Makefile, CMake
Organization Git, Gerrit, Jira
Platforms Linux, macOS
Libraries Numpy, Pandas, Scipy, Matplotlib, QT, Bokeh, Boost, CVX, Tensorflow

Control theory and robotics, Mathematical optimization, Data science, Algorithms and data structures, Machine learning

ABOUT ME

I am strongly detail oriented and work best in small but passionate teams.

Always passionate about aviation I obtained my private pilot's license at age 16. I also love travelling, skiing and learning new languages.

I am most interested in programming for applications that involve a lot of mathematical theory (robotics, finance, optimization, etc.).

EDUCATION

B.A.Sc. in Computer Engineering 2014–2019
University of Toronto Toronto, Canada

- High honours (approx. top 5 percent), 3.84/4.00 CGPA
- Minor in Robotics and Mechatronics
- Summer research student exchange with ETH Zürich
- Final Project: *Distributed Rendezvous of a Swarm of Wheeled Robots*

French Baccalauréat Général (S) 2011-2014
Lycée Français de Toronto Toronto, Canada

INDUSTRY EXPERIENCE

Data Scientist May 2019–Present
Archlet AG Zürich, Switzerland

- In charge of the development of a tool making use of data science and mathematical optimization to maximize savings in the procurement industry.
- Develpping the optimization engine in Python as part of a cloud application.
- Interacting with clients as part of sales and to develop the user interface.

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

- Worked on the onboard estimation and control algorithms of swarms of quadcopters and offboard user interface applications implemented in C++.
- Evaluated and characterized flight performance and effectiveness of calibration routines using Python and improved drone production pipeline.
- Serviced entertainment drone show systems overseas and personally oversaw flight operations for several weeks.

Radio Frequencies Engineer June 2015–September 2015
UTIAS 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.

RESEARCH EXPERIENCE

Researcher May 2016–August 2016
ETHZ Lab 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.

Researcher May 2015–June 2015
University of Toronto Electromagnetics Group 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.

Warrant Officer Second Class September 2009–August 2014
166 Bulldog Royal Canadian Air Cadet Squadron Toronto, Canada

- Gained extensive leadership experience while teaching classes and being in charge of the organization of large group activites and eventually achieving the second highest rank in the cadet program.
- Participated in highly selective nation-wide courses including obtaining my pilot wings for both gliders and powered airplanes

SCHOLARSHIPS AND AWARDS

- **Excellence Scholarship and Opportunity Program** 2019–2021
- **Applied Science and Engineering Dean's Honours List** 2014–2019
- **Gordon R. Slemon Scholarship** 2016
- **University of Toronto International Exchange Bursary** 2016
- **University of Toronto Centre for International Exchange Award** 2016
- **Royal Canadian Air Cadets Power Pilot Scholarship** 2014
- **Royal Canadian Air Cadet Glider Pilot Scholarship** 2013