Simon Chamorro

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Languages : English, French and Spanish

EDUCATION

Université de Sherbrooke, Sherbrooke   GPA : 4.27/4.3
Bachelor's in Robotic Engineering
Expected December 2021

SKILLS

People Skills : Teamwork, Problem Solving, Leadership
Languages : Python, C++, C
Mastered Tools : Linux, ROS, Qt, Matlab, Simulink, Solidworks, Git
Basic Knowledge : Machine Learning, Docker, JavaScript, HTML, CSS
Technical : Algorithms and Data Structures, Controller Design, SLAM, UI,
3D Modeling, Network Protocols (TCP/IP, UPD, HTTP)
Business : Venture Capital, Entrepreneurship, Event Organising, Fund Raising

EXPERIENCE

Teaching Assistant   **Apr 2020 - Present**
Université de Sherbrooke, Sherbrooke, QC, Canada
- GRO302 : Mobile Robotics 1st-year project course.

Autonomous Driving Research Intern   **Jan 2020 - Apr 2020**
Huawei, Markham, ON, Canada
- Added features to our driving simulator such as a pure pursuit lateral controller.
- Experimented with various RL algorithms and compared them on different tasks.
- Implemented Soft Actor Critic and adapted it to our driving task.
- Drafted a thorough literature review on motion planning using RL.

Research Intern   **Apr 2019 - Sept 2019**
Mila, Montreal, QC, Canada
- Created a real-world 360° imagery dataset covering 6km of Montreal sidewalk.
- Built a navigation RL environment that simulates multi-modal sensor observations.
- Used the RL algorithm Proximal Policy Optimization to learn a policy on our task.
- Benchmarked the performance of Scene Text Recognition models on our dataset.

Autonomous Navigation Intern   **Sept 2018 - Dec 2018**
Institut du Véhicule Innovant, Saint-Jérôme, QC, Canada
- Participated in the development of the navigation system of an autonomous tractor.
- Implemented and tested robotic mission management algorithms.
- Built a software for GPS trajectory preparation to be followed by the robot.
- Developed a user interface and a monitoring system for vehicle sensors.

Investment Team Associate   **Mar 2019 - Present**
Front Row Ventures, QC, Canada
- Met with student founders, completed due diligence and evaluated their business.
- Attended Investment Committees and decided on investments with the team.

PUBLICATIONS

*M. Weiss, **S. Chamorro**, R. Girgis, M. Luck, S. E. Kahou, J. Cohen, D. Nowrouze-zahrai, D. Precup, F. Golemo, C. Pal. "Navigation Agents for the Visually Impaired : A Sidewalk Simulator and Experiments" Conference on Robot Learning 2019.*

EXTRA-CURRICULAR ACTIVITIES

Software Developer & Founding Member   **Sept 2018 - Present**
Robotique UdeS (Robotics student group)
- Participated to the creation of the group, including funding, structure, and branding.
- Managing our website and editing our blog.
- Developing software for a rover prototype for the forthcoming Canadian International Rover Challenge (CIRC) in 2020.

Lead Organizer   **Jan 2019 - May 2019**
Startup Weekend Sherbrooke
- Raised 7000$ in sponsorships and led the marketing campaign.
- Found mentors and judges and coordinated the logistics of the event.

Robotics Mentor   **Sept 2017 - Mar 2018**
UdeS First (Educational Robotics Student Group)
- Guided students in building and coding a Lego robot for the FIRST competition.
- Gave introductory programming workshops to elementary school students.

HONORS
- Ordre des ingénieurs Foundation Scholarship (3000$) – *FOIQ, Québec*   **2020**
- APCUS Student Involvement Scholarship (1000$) – *U. de S., Sherbrooke*   **2019**
- Retiree Fund Student Involvement Scholarship (1000$) – *U. de S., Sherbrooke* **2019**
- Undergraduate Research Scholarship (5000$) – *IVADO, Montreal*   **2019**
- Excellence Scholarship, J. A. Bombardier (1000$) – *U. de S., Sherbrooke*   **2018**
- Certificate of Academic Excellence – *U. de S., Sherbrooke*   **2018 & 2019**

PROJECTS
UdeS Racecar   **Fall 2019 (5th semester)**
Université de Sherbrooke
- Programmed a web interface for teleoperating the racecar using HTML and roslibjs.
- Designed PID and LQR controllers for vehicle speed and position.
- Implemented different behaviours such as obstacle detection, and potential field path planning.

Face Tracking Camera   **Winter 2019 (4th semester)**
Université de Sherbrooke and ZAP, Montreal
- Programmed a prototype face tracking system to film and follow artists on stage.
- Developed the system's software in Python in a ROS environment.

Intelligent Vehicle on Rails   **Summer 2018 (3rd semester)**
Université de Sherbrooke
- Designed the hardware of a 4-wheel vehicle that transported a mass on a pendulum.
- Modeled the vehicle's dynamics and designed a controller using Matlab and Simulink.

Automated Production Line   **Winter 2018 (2nd semester)**
Université de Sherbrooke
- Programmed UR and FANUC routines for robotic arms.

VOLUNTEER WORK
Volunteer, *Oktoberfest, Sherbrooke*   **2019**
Volunteer, *Founder Fuel Demo Day, Montreal*   **2019**
Volunteer *International Conference on Robotics and Automation, Montreal*   **2019**

INTERESTS AND HOBBIES
- Robotics • Machine Learning • Reinforcement Learning • 3D Printing
- Soccer • Sprint-Kayaking • Triathlon