

Simon Chamorro

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Languages : English, French and Spanish

EDUCATION	Université de Sherbrooke , Sherbrooke <i>Bachelor's in Robotic Engineering</i> Expected December 2021	GPA : 4.24/4.3
SKILLS	People Skills : Teamwork, Problem Solving, Leadership Languages : Python, C++, C, HTML, JavaScript, CSS Tools : Linux, ROS, Qt, Git, Pytorch, Docker, Matlab/Simulink, Solidworks Technical : Algorithms and Data Structures, Controller Design, Machine Learning, Reinforcement Learning, 3D Modeling, Network Protocols, UI, SLAM Business : Venture Capital, Entrepreneurship, Event Organising, Fund Raising	
EXPERIENCE	Robotics Research Intern	Sept 2020 - Dec 2020
	<i>Defense Research and Development Canada, Suffield, AB, Canada</i> <ul style="list-style-type: none">• Developed a gesture recognition system based on a LSTM network.• Built a LIDAR body pose estimation CNN reaching a 3 cm precision.• Implemented a teleoperation system for a UGV based on detected gestures.• Wrote a scientific paper and a technical report about my work.	
	Teaching Assistant	Apr 2020 - Aug 2020
	<i>Université de Sherbrooke, Sherbrooke, QC, Canada</i> <ul style="list-style-type: none">• GRO302 : Mobile Robotics Semester Project Course.	
	Autonomous Driving Research Intern	Jan 2020 - Apr 2020
	<i>Huawei, Markham, ON, Canada</i> <ul style="list-style-type: none">• 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
	<i>Mila, Montreal, QC, Canada</i> <ul style="list-style-type: none">• 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
	<i>Institut du Véhicule Innovant, Saint-Jérôme, QC, Canada</i> <ul style="list-style-type: none">• 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.	
PUBLICATIONS	<i>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.</i>	
WORK IN PROGRESS	<i>S. Chamorro, J. Collier, F. Grondin "Multi-modal Gesture Recognition for Vehicle Teleoperation" Submitted to IROS 2021.</i>	
	<i>K. Rezaee, P. Yadmellat, S. Chamorro "Motion Planning for Autonomous Vehicles Using Reinforcement Learning in Presence of Uncertainty" Submitted to ICRA 2021.</i>	

EXTRA-CURRICULAR ACTIVITIES	Software Developer & Founding Member <i>Robotique UdeS (Robotics student group)</i> • Participated to the creation of the group, including funding, structure, and branding. • Managing our website and editing our blog.	Sept 2018 - Present
	Investment Team Associate <i>Front Row Ventures, QC, Canada</i> • Met with student founders, completed due diligence and evaluated their business. • Attended Investment Committees and decided on investments with the team.	Mar 2019 - Mar 2020
	Lead Organizer <i>Startup Weekend Sherbrooke</i> • Raised 7000\$ in sponsorships and led the marketing campaign. • Found mentors and judges and coordinated the logistics of the event.	Jan 2019 - May 2019
	Robotics Mentor <i>UdeS First (Educational Robotics Student Group)</i> • Guided students in building and coding a Lego robot for the FIRST competition. • Gave introductory programming workshops to elementary school students.	Sept 2017 - Mar 2018
HONORS	• Hydro-Québec Excellence Scholarship (2000\$) – <i>Hydro-Québec, Sherbrooke</i> 2020 • Ordre des ingénieurs Foundation Scholarship (3000\$) – <i>FOIQ, Québec</i> 2020 • APCUS Student Involvement Scholarship (1000\$) – <i>U. de S., Sherbrooke</i> 2019 • Retiree Fund Student Involvement Scholarship (1000\$) – <i>U. de S., Sherbrooke</i> 2019 • Undergraduate Research Scholarship (5000\$) – <i>IVADO, Montreal</i> 2019 • Excellence Scholarship, J. A. Bombardier (1000\$) – <i>U. de S., Sherbrooke</i> 2018 • Certificate of Academic Excellence – <i>U. de S., Sherbrooke</i> 2018, 2019 & 2020	
PROJECTS	Zeus Rover <i>Université de Sherbrooke</i> • Developing software for a rover prototype for the forthcoming Canadian International Rover Challenge (CIRC) in 2021.	2020 - 2021 (Capstone)
	UdeS Racecar <i>Université de Sherbrooke</i> • 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.	Fall 2019 (5th semester)
	Face Tracking Camera <i>Université de Sherbrooke and ZAP, Montreal</i> • Programmed a prototype face tracking system to film and follow artists on stage. • Developed the system's software in Python in a ROS environment.	Winter 2019 (4th semester)
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	