RODRIGUE DE SCHAETZEN

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EDUCATION

Université de Montréal / Mila - Quebec AI Institute — Montreal, QC
PhD in Computer Science; Advisor: Prof. Liam Paull — *Sept 2024 - Present*
Research: Autonomous Driving, Trajectory Planning, Foundation Model Reasoning

University of Waterloo — Waterloo, ON
MASc in Electrical and Computer Engineering; Advisor: Prof. Stephen L. Smith — *May 2021 - Aug 2024*
Thesis: Local Navigation for Autonomous Maneuvering of Marine Vessels in Broken Ice Fields

University of British Columbia — Vancouver, BC
BSc (Honours) in Computer Science and Physics; Advisor: Prof. Alison Lister — *Sept 2015 - May 2021*
Thesis: Classifying Displaced Hadronic Jets in the ATLAS Calorimeter

PUBLICATIONS

Poutine: Vision-Language-Trajectory Pre-Training and Reinforcement Learning Post-Training Enable Robust End-to-End Autonomous Driving
L Rowe*, **R de Schaetzen***, R Girgis, C Pal, L Paull
WAD@CVPR 2025 Workshop. 1st Place on the 2025 Waymo E2E Driving Challenge

AUTO-IceNav: A Local Navigation Strategy for Autonomous Surface Ships in Broken Ice Fields
R de Schaetzen, A Botros, N Zhong, K Murrant, R Gash, SL Smith
IEEE Transactions on Robotics (T-RO), 2025 (to appear)

Real-Time Navigation for Autonomous Surface Vehicles In Ice-Covered Waters
R de Schaetzen, A Botros, R Gash, K Murrant, SL Smith
IEEE International Conference on Robotics and Automation (ICRA), London, UK, May 2023.

Efficient Ground Vehicle Path Following in Game AI
R de Schaetzen, A Sestini
IEEE Conference on Games (CoG), Boston, MA, August 2023.

A Fully Automated Method for Bladder Segmentation in PSMA PET/CT Scans
Y Farag*, **R de Schaetzen***, G Chausse, F Yousefirizi, I Klyuzhin, A Rahmim, C Uribe
European Association of Nuclear Medicine (EANM), Oct 2021.

EXPERIENCE

Electronic Arts — Waterloo, ON
Software Engineer Intern — *Sept 2022 - April 2023*

· Designed and implemented a real-time path-following algorithm in C++ for ground vehicle control in Battlefield 2042, reducing vehicle-stuck failures by 70%; results published as a short paper (CoG 2023).

BC Cancer Research Centre — Vancouver, BC
Part-time Researcher — *Jan 2021 - Aug 2021*

· Developed a prostate lesion segmentation model on full-body PSMA PET/CT scans using deep convolutional neural networks; work presented at a nuclear medicine conference (EANM 2021).

University of British Columbia Vancouver, BC
Undergraduate Researcher *May 2020 - Aug 2020*

· Worked under Prof. Ian Mitchell as a funded summer undergraduate research student; built a training pipeline to learn a nonlinear dynamics model of a mobile robot and configured an overhead vision system to collect real-vehicle state data.

Zurich University of Applied Sciences Zurich, Switzerland
Research Intern *May 2018 - July 2019*

· Extended a cloud robotics web application by integrating cloud-based SLAM to offload computation, and implemented a robust ROS-based navigation system for a warehouse automation robot.

PROJECTS

Wildfire Smoke Detection Model Sept 2020 - Dec 2020

· Led the UBC team in the 2020 ProjectX international ML competition on climate change (hosted by UofT AI); proposed an image classifier for forest fire smoke detection and created the first smoke-annotated video dataset with 139 hours of footage from 678 videos.

SELECTED COURSES

· Autonomous Vehicles, UdeM, Fall 2024 (Grade: A+)
· Probabilistic Graphical Models, UdeM, Fall 2024 (Grade: A+)
· Introduction to Optimization, UWaterloo, Spring 2023 (Grade: A+)
· Robot Dynamics & Control, UWaterloo, Spring 2022 (Grade: A+)
· Model Predictive Control, UWaterloo, Winter 2022 (Grade: A+)
· Machine Learning and Data Mining, UBC, Winter 2020 (Grade: A+)

SKILLS

· **Programming Languages**: Python, C++, C, MATLAB, Bash
· **Libraries and Tools**: PyTorch, Unreal Engine, OpenCV, ROS, CasADi, AWS, Git

HONOURS AND AWARDS

· FRQNT Doctoral Scholarship ($100,000, 2025 – 2028) *Université de Montréal*
· ICRA Travel Award ($1700, 2023) *University of Waterloo*
· Science Undergraduate Research Experience Award ($3500, 2020) *University of British Columbia*
· Dean's Honour List (2020) *University of British Columbia*
· Go Global Self-Initiated Research Abroad Award ($2000, 2018) *University of British Columbia*
· Dr. Hal Weinberg Scholarship ($1000, 2015) *University of British Columbia*

PROFESSIONAL SERVICE & VOLUNTEERING

· **PhD Student Council Representative** for *UdeM Computer Science Student Association* (2024 – Present)
· **Teaching Assistant** in *Numerical Methods, Software Construction*, and *Algorithms and Data Structures*
· **Reviewer** for *American Control Conference* 2024 and *IEEE Transactions on Robotics* 2025
· **Student Volunteer** for the *International Association for the Exchange of Students for Technical Experience* (IAESTE) Zurich Local Committee (2018 – 2019)
· **Vice President** of the *UBC Bike Club* (2019 – 2021)