Jean-François Tremblay

Aspiring AI and robotics researcher
772 avenue Émile-Côté app. 6, Québec (QC), G1V 2N4
(418) 617-0330 ⋄ jftremblay255@gmail.com

EDUCATION

Laval University *September 2017 - Present*
Research M.Sc., computer science GPA: 4.11/4.33
Thesis: Mapping difficult forested environments with a lidar-equipped robot for forest inventory
Supervised by Professor Philippe Giguère and Professor Martin Béland

Laval University *September 2014 - May 2017*
B.Sc., mathematics and computer science GPA: 3.20/4.33

REFERRED PUBLICATION

Jean-François Tremblay and Martin Béland. "Towards operational marker-free registration of terrestrial lidar data in forests". In: *ISPRS Journal of Photogrammetry and Remote Sensing* 146 (2018), pp. 430–435. ISSN: 0924-2716. DOI: https://doi.org/10.1016/j.isprsjprs.2018.10.011. URL: http://www.sciencedirect.com/science/article/pii/S0924271618302892

ACADEMIC EXPERIENCE

Laval University *September 2017 - Present*
Graduate student - Northern robotics laboratory

- Leading and organizing a project involving a forest technician and engineers
- Designing a field robotics experiment in forests
- Studying GPS-denied 3D mapping algorithms for mobile robots
- Studying tree diameter estimation methods from 3D points clouds
- A preliminary video of the 3D mapping results is available here

Laval University *May 2016 - April 2017*
Undergraduate researcher - Digital forest laboratory

- Studied an algorithm for forest biomass prediction from 3D point clouds
- Designed an algorithm for point cloud registration of lidar data in forests
- Conducted an experimental validation of the registration algorithm
- Wrote a journal paper as first author about this algorithm, which was published in 2018

INDUSTRIAL EXPERIENCE

CRiQ (Quebec's center for industrial research) *May 2018 - December 2018*
Mitacs intern, technology transfer

InnovMetric Software Inc. *May 2017 - August 2017*
C++ software developer, 3D scanning

CNESST (Quebec government agency) *May 2015 - April 2016*
Software development intern, NoSQL databases

TALKS

Jean-François Tremblay. "Towards autonomous forest inventory with mobile robots". Presented at Quebec's center for industrial research, Quebec City. 2018

Jean-François Tremblay. "An algorithm for marker-free registration of lidar point clouds in forests". 6ième édition de l'atelier T-Lidar pour la communauté francophone: Utilisation de nuage de points à haute densité pour l'écologie forestière, Sherbrooke. 2016

I also gave talks about five different machine learning papers as part of coursework and a reading group.

POSTERS

Jean-François Tremblay, Martin Béland "Towards Operational Marker-Free Registration of Terrestrial Lidar Data in Forests", presented at:

- *Royal Society Theo Murphy International Meeting: "The terrestrial laser scanning revolution in forest ecology"*, 2017
- *NCFRN Annual General Meeting*, 2018
- *Colloque REPARTI*, 2018

SCHOLARSHIPS

Mitacs Accelerate, 30 000$ *May 2018 - December 2018*

I have also applied for both the *NSERC* and *FRQNT* Ph.D. scholarships for 2019.

RELEVANT COURSES

Deep learning	Computer vision	Parallel and distributed computing
Mobile robotics	Optimization	Measure theory

EXTRA-CURRICULAR

Member of the graduate program committee for the computer science department

Secretary-treasurer for the mathematics and statistics graduation committee of 2016-2017

Also participated in various fund raising activities this graduation committee

Election director for my student association in 2016 and 2017

Orange belt in Judo and Japanese Jiu-Jitsu

Guitar player

TECHNICAL STRENGTHS

Computer Languages	C++, Python, MATLAB, Java
Software & Tools	Robot Operating System, NumPy, Scikit-Learn, Ceres, Eigen, PyTorch, Point Cloud Library, CMake, Linux