

## Studies

- 2016 – **Doctorate in Electrical Engineering (PHD)**, UNIVERSITÉ LAVAL, Québec.  
Subject: Real-time classification of sEMG signals for prostheses guidance.  
Director: Benoit Gosselin. Co-Director: François Laviolette
- 2014 – 2016 **Master in Electrical Engineering (Fast passage to PHD)**, UNIVERSITÉ LAVAL, Québec.  
Director: Benoit Gosselin. Co-Director: François Laviolette
- 2011–2014 **Integrated bachelor in Mathematics and Computer Science**, UNIVERSITÉ LAVAL, Québec.

## Peer-reviewed Scientific Papers

### Published Papers

- 2017 **Ulysse Côté Allard**, *Cheikh Latyr Fall, Alexandre Campeau-Lecours, Clément Gosselin, François Laviolette and Benoit Gosselin.*  
TRANSFER LEARNING FOR SEMG HAND GESTURES RECOGNITION USING CONVOLUTIONAL NEURAL NETWORKS, IEEE International Conference on Systems, Man, and Cybernetics (SMC). [ACCEPTED FOR PUBLICATION]
- 2017 **Ulysse Côté Allard**, *David St-Onge, Philippe Giguère, François Laviolette and Benoit Gosselin.*  
TOWARDS THE USE OF CONSUMER-GRADE ELECTROMYOGRAPHIC ARMBANDS FOR INTERACTIVE, ARTISTIC ROBOTICS PERFORMANCES, IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN). [ACCEPTED FOR PUBLICATION]
- 2016 **Dinh-Son Vu\***, **Ulysse Côté Allard\***, *Clement Gosselin, François Routhier, Benoit Gosselin and Alexandre Campeau-Lecours.*  
INTUITIVE ADAPTIVE ORIENTATION CONTROL OF ASSISTIVE ROBOTS FOR PEOPLE LIVING WITH UPPER LIMB DISABILITIES., IEEE International Conference on Rehabilitation Robotics (ICORR). (\*These authors contributed equally to this work). [ACCEPTED FOR PUBLICATION]
- 2017 **Ulysse Côté Allard\***, **Gabriel Dubé\***, *Richard Houry, Luc Lamontagne, Benoit Gosselin and François Laviolette.*  
TIME ADAPTIVE DUAL PARTICLE SWARM OPTIMIZATION, IEEE Congress on Evolutionary Computation. (\*These authors contributed equally to this work)
- 2016 **Ulysse Côté Allard**, *François Nougrou, Cheikh Latyr Fall, Philippe Giguère, Clément Gosselin, François Laviolette and Benoit Gosselin .*  
A CONVOLUTIONAL NEURAL NETWORK FOR ROBOTIC ARM GUIDANCE USING SEMG BASED FREQUENCY-FEATURES, IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), pp. 2464-2470
- 2015 **Ulysse Côté Allard**, *Richard Houry, Luc Lamontagne, Jonathan Bergeron, François Laviolette and Alexandre Bergeron-Guyard.*  
OPTIMIZING QUESTION-ANSWERING SYSTEMS USING GENETIC ALGORITHMS, Proceedings of the 28th International FLAIRS Conference, pp. 32-37.

## Current Research

- Use of convolutional network for the classification of the electromyography signal.
- Use of reinforcement learning for real-time adjustments of prosthesis guidance.
- Development of an evolutionary based algorithm for the optimization of high cost functions.

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## Work Experience

- fall 2015 and fall 2016 **Teacher's assistant in mathematics for computer scientist (MAT-1919)**, *Université Laval*, Québec, supervisor: François Laviolette.
- 2015 – 2016 **Research assistant in electrical engineering**, *Université Laval*, Québec.  
Supervisor: Benoit Gosselin.
- spring and summer 2016 **University-Industry research**, *Université Laval*, Québec.  
Subject: Elaboration of a toolbox in simulink for the guidance of a quadcopter in realtime using electromyography for Quanser Consulting Inc.  
Supervisor: Benoit Gosselin
- 2013 – 2015 **Research assistant in natural language processing**, *Université Laval*, Québec.  
Supervisor: Luc Lamontagne.
- 2013 **University research contract**, *Université Laval*, Québec.  
Subject: Tasked with creating a software that measures the fractal dimension of an image generated from data recorded of eye movements during various creative processes.  
Supervisor: Pierre Côté

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## Grants and scholarship

- 2016 PHD Scholarship from FRQNT (60 000\$ over 3 years).
- 2016 PHD grant from CIRRIIS (15 000\$ over a year) - Declined.
- 2016 IROS16 travel grant
- 2011 Université Laval grant for the excellence of the academics dossier at the university admission

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## Volunteering

- Helping an elementary school student with learning deficit (ADHD) with his homeworks**, *Directly at his home*, Québec.
- Helping elementary school students with their homework**, *Saint-Jean-Baptiste School*, Québec.
- Waiter for gastronomic supper**, *Joseph-François Perrault High School*, Québec.  
Raise funds for diverse humanitarian causes
- Weekly camp animator**, *Saint-Jean-Baptiste School*, Québec.

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## Languages

- French **Native language**
- English **Second language**, *Score of 970 in TOEIC (Test for International Communication)*.
- Norwegian **Beginner**, *Online classes and tutoring*.

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## Research Interest Area

- Rehabilitation Engineering
- Biomedical Engineering
- Machine Learning
- Optimisation
- Evolutionary Algorithms