

Ulysse Côté-Allard

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AWARDS AND

SCHOLARSHIPS

PHD SCHOLARSHIP FROM THE NSERC | \$63,000 OVER THREE

YEARS

2018- | Accepted

IEEE SYSTEMS, MAN, AND CYBERNETICS BEST PAPER AWARD | \$500 FOR A FIRST

AUTHOR PAPER ACCESSIBLE HERE: [4] 2017- | Accepted

IEEE SYSTEMS, MAN, AND CYBERNETICS TRAVEL GRANT

2017- | Accepted

GRANT CITIZEN OF THE WORLD | \$10,000

2017- | Accepted

PHD SUPPLEMENTAL SCHOLARSHIP FROM IRSST | \$5,000 A YEAR FOR THREE YEARS

2017- | Accepted

IEEE INTERNATIONAL CONFERENCE ON INTELLIGENT ROBOTS TRAVEL GRANT

2016- | Accepted

PHD SUPPLEMENTAL SCHOLARSHIP FROM IRSST |

\$5,000 A YEAR

2017-2018-2019 | Accepted

PHD SCHOLARSHIP FROM FRQNT | \$60,000 OVER THREE

YEARS

2016-2018 | Accepted

PHD GRANT FROM CIRRIIS | \$15,000

2016 | Declined

UNIVERSITÉ LAVAL GRANT FOR ACADEMICAL DOSSIER EXCELLENCE 2011 | Accepted

LINKS

Home Page:// [Ulysse](#)

Google Scholar:// [Côté-Allard, U.](#)

Github:// [Giguelingueling](#)

EDUCATION

DOCTORATE IN ELECTRICAL ENGINEERING (PHD)

DEEP LEARNING FOR MYOELECTRIC PROSTHESES GUIDANCE BY

LEVERAGING DOMAIN ADAPTATION AND REINFORCEMENT LEARNING

Co-directed by Prof. Benoit Gosselin and Prof. François Laviolette

2016 - Ongoing | Université Laval

DOCTORATE INTERNSHIP

Under the direction of Prof. Kyrre Glette

2017-2018 | Universitetet i Oslo

MSC IN ELECTRICAL ENGINEERING (FAST PASSAGE TO PHD)

2014-2016 | Université Laval

INTEGRATED BSC IN MATHEMATICS AND COMPUTER SCIENCE

2011-2014 | Université Laval

ACADEMIC WORK EXPERIENCE

SEMINAR LEADER ("KURSLEDER") | MATHEMATICS FOR COMPUTER SCIENTISTS

2015-2016-2018 | Université Laval

- Taught an elective class that is complementary to the main class. I was also tasked to correct students' exams.

UNIVERSITY-INDUSTRY RESEARCH | WITH QUANSER

2016 | Université Laval

- Developed a Matlab/C++ library to control quadcopters using muscle activity. I was also the main contributor in writing the grant proposal for this research.

RESEARCH ASSISTANT | IN NATURAL LANGUAGE PROCESSING

2013-2015 | Université Laval

- Developed a genetic algorithm in C#/Java to automatically optimize filter sequencing for a Question and Answer system.

RESEARCH CONTRACT | IN EYE MOVEMENT

2013 | Université Laval

- Developed an algorithm in Java to quantitatively evaluate the impact of design media on the architectural ideation process using the fractal dimension from eye tracking data.

PROGRAMMING TEACHER

2012 | CÉGEP Limoilou

- Teaching the curriculum of the Java language to a class at Quebec's equivalent of videregående.

VOLUNTEERING

TUTORING FOR CHILDREN (BETWEEN 8 TO 12 YEARS OLD) |

INCLUDING CHILDREN WITH LEARNING DIFFICULTIES

at St-Jean-Baptiste Elementary School and Private Tutoring

over a period of four years

SUMMER CAMP COUNSELOR | INCLUDING CHILDREN WITH LEARNING DIFFICULTIES

with St-Jean-Baptiste Elementary School

over a period of two years

WAITER FOR GASTRONOMIC SUPPER | TO RAISE FUNDS FOR

DIVERSE HUMANITARIAN CAUSES

over a period of three years

ADMINISTRATIVE AND ACADEMIC SERVICES

ASSISTANT TEACHER | FOR THE MACHINE LEARNING WINTER SCHOOL AT UNIVERSITÉ LAVAL

SUPERVISOR OF A STUDENT | WHO WAS A SUMMER INTERN AT THE BIOMEDICAL MICROSYSTEM LABORATORY LAVAL UNIVERSITY

TEACHING | AT THE MACHINE LEARNING LAVAL UNIVERSITY WINTER SCHOOL

INVITED CONFERENCE SPEAKER | AT THE INTERNATIONAL SCIENTIFIC CONFERENCE ON DIGITAL INTELLIGENCE, PINT OF SCIENCE AND MULTIPLE LAVAL UNIVERSITY SEMINARS

PRESENTER AT LAVAL UNIVERSITY'S OPEN DAYS | WHERE I SHOWCASED MY DIFFERENT PROJECTS RELATED TO MACHINE LEARNING AND ROBOTICS

CONSULTING | FOR THE CIVIL ENGINEERING DEPARTMENT ON MACHINE LEARNING FOR CONCRETE MIXING.

PEER REVIEW | OF MORE THAN 20 MANUSCRIPTS in journals such as IEEE TNSR and JBHI.

SKILLS

PROGRAMMING

- Python • C# • Unity
- C++ • Java • Matlab

LANGUAGES

- French - Native Language
- English - Fluent (970/990 on TOEIC)
- Norwegian - Beginner (Completed Norsk A2)

RESEARCH INTEREST

- Machine Learning
- Human-Robot Interaction
- Rehabilitation Engineering
- Transfer Learning
- Reinforcement Learning
- High-Cost Function Optimization
- Evolutionary Computation
- Virtual/Augmented Reality

PEER-REVIEWED SCIENTIFIC PAPERS

JOURNAL PAPERS

[1] Côté-Allard, U., Fall, C.L., Drouin, A., Campeau-Lecours, A., Gosselin, C., Glette, K., Laviolette, F. and Gosselin, B. "Deep Learning for Electromyographic Hand Gesture Signal Classification Using Transfer Learning.", IEEE Transactions on Neural Systems and Rehabilitation Engineering. (2019)

[2] St-Onge, D., Côté-Allard, U., Glette, K., Gosselin, B. and Beltrame, G. "Engaging with Robotic Swarms: Commands from Expressive Motion." ACM Transactions on Human-Robot Interaction. (2019) [ACCEPTED FOR PUBLICATION]

[3] Campeau-Lecours, A., Côté-Allard, U., Vu, D.S., Routhier, F., Gosselin, B. and Gosselin, C. "Intuitive Adaptive Orientation Control for Enhanced Human-Robot Interaction." IEEE Transactions on Robotics. (2018)

CONFERENCE PAPERS

[4] Côté-Allard, U., Fall, C.L., Campeau-Lecours, A., Gosselin, C., Laviolette, F. and Gosselin, B. "Transfer learning for sEMG hand gestures recognition using convolutional neural networks." In 2017 IEEE International Conference on Systems, Man, and Cybernetics (SMC) (pp. 1663-1668).

[5] Côté-Allard, U., St-Onge, D., Giguère, P., Laviolette, F. and Gosselin, B. "Towards the use of consumer-grade electromyographic armbands for interactive, artistic robotics performances." In 2017 26th IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN) (pp. 1030-1036).

[6] Vu, D.S.* , Côté-Allard, U.*, Gosselin, C., Routhier, F., Gosselin, B. and Campeau-Lecours, A. *These authors share first authorship. "Intuitive adaptive orientation control of assistive robots for people living with upper limb disabilities." . In 2017 IEEE International Conference on Rehabilitation Robotics (ICORR) (pp. 795-800).

[7] Côté-Allard, U.*, Dubé, G.* , Khoury, R., Lamontagne, L., Gosselin, B. and Laviolette, F. *These authors share first authorship. "Time adaptive dual particle swarm optimization." In 2017 IEEE Congress on Evolutionary Computation (CEC) (pp. 2534-2543).

[8] Côté-Allard, U., Nougrou, F., Fall, C.L., Giguère, P., Gosselin, C., Laviolette, F. and Gosselin, B. "A convolutional neural network for robotic arm guidance using semg based frequency-features." In 2016 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) (pp. 2464-2470).

[9] Côté-Allard, U., Khoury, R., Lamontagne, L., Bergeron, J., Laviolette, F. and Bergeron-Guyard, A. "Optimizing Question-Answering Systems Using Genetic Algorithms." In 2015 The Twenty-Eighth International Flairs Conference. (pp. 32-37)