



# CREATE Program in Machine Learning in Quantitative Finance & Business Analytics - Training Activities

Last Updated: January 10 2020

## Training Structure

There are 2 categories: **Technical Activities & Professional Development.**

Each *category* is assigned a minimum number of UNITS that have to be completed.

Each *activity* within each category counts for a certain number of UNITS. Students can combine different activities of their choice in order to complete the required number of UNITS.

Over the course of the year, various activities will be communicated directly with the students, with the number of units assigned. Some activities will not be assigned any units, but remain beneficial for the students' development, or for networking purposes. Activities will be spread out over the year, and we are working on increasing our presence outside of Montreal.

The training structure was designed in a way to give students the flexibility to pick and choose depending on their backgrounds and schedule. Students are welcome to suggest workshops or conferences that can be credited and of interest to the rest of the Fin-ML community. Proposals will be sent for approval by the Scientific Committee. Reimbursement of travel expenses can also be considered for activities not listed below, but approved thereafter. The list below is indicative and can be updated to ensure the quality of the program. We will be working on finding the best opportunities, to which you can attend, actively participate, or help organize.



## Category 1: Technical Activities

Minimum UNITS required: 15 UNITS

A MAXIMUM of 5 UNITS from Conferences

Activity	Number of UNITS	Note
<a href="#">IVADO Workshop in Finance and Insurance</a>	10	- Offered in Montreal, regularly over the year - Travel & accommodation fees covered for out of province students*. - Similar workshops can be approved upon request
<a href="#">Formathon 3.0 Fintech Cadence</a>	5	- Offered in Montreal, once or twice a year - Travel & accommodation fees covered for out of province students*. - Similar workshops can be approved upon request
<a href="#">CRM &amp; IVADO Industrial Problem Solving Workshop</a>	5	- Offered at various locations, once a year - Travel & accommodation fees covered for out of province students*. - Similar workshops can be approved upon request
CREATE Industrial Research Conference – for students to present their projects	1 – If attending 3 – If presenting	- Offered at various locations, once a year - Travel & accommodation fees covered for out of province students*. - Similar workshops can be approved upon request
Other Conferences	0-1 – If attending 3 – If presenting	Conferences and assigned units will be communicated regularly. Student suggested conferences can be approved upon request.

\* Subject to NSERC-CREATE travel & accommodation eligible expenses.

It is **recommended** that students follow certain courses in their home universities, as part of their base program, in order to have a full-rounded profile. Here are some of these courses:

Université de Montréal	<a href="#">IFT 6390 – Fondements de l'apprentissage machine</a> <a href="#">IFT 6135 – Apprentissage de représentations</a>
Concordia University	<a href="#">INSE 6320 – Risk Analysis</a> <a href="#">MACF 491 – Reinforcement Learning</a> <a href="#">STAT 497 – Statistical Learning</a>
HEC Montreal	<a href="#">80-629-17A – Machine Learning for Large-Scale Data Analysis &amp; Decision Making</a> <a href="#">80600A – Machine Learning II: Deep Learning</a> <a href="#">MATH80614A – Numerical Methods in Quantitative Finance</a>
Queen's University	<a href="#">MGMT 962 – Big Data Analytics</a> <a href="#">MGMT 963 – Machine Learning and Artificial Intelligence</a>
University of Waterloo	<a href="#">STAT 946 – Deep Learning</a> <a href="#">STAT 906 – Computer Intensive Methods for Stochastic Models in Finance</a> <a href="#">ACTSC/STAT 974 – Financial Econometrics</a>



[ACTSC 970 – Finance I](#)  
[ACTSC 971 – Finance II](#)

## Category 2: Professional Development

Minimum UNITS required: **6 UNITS**

Activity	Number of UNITS	Note
Grant Writing and Peer Review	2	<ul style="list-style-type: none"> <li>- Offered in Montreal (for now), a few times a year</li> <li>- Travel &amp; accommodation fees covered for out of province students*.</li> <li>- Similar workshops can be approved upon request</li> </ul>
Commercialization and Intellectual Property	2	
AI Ethics in Finance	2	
Career Management	2	
Job Fair	0	
Mentorship Program	0	