# RESEARCH INTERESTS BY PROFESSORS:

## NEW PROFESSORS*

<table>
<thead>
<tr>
<th>Professor</th>
<th>Affiliations</th>
<th>Research Interests</th>
</tr>
</thead>
</table>
| Aaron Courville     | UdeM                          | ● Computer vision  
● DL  
● GANs  
● Generative models  
● Multi-modal learning  
● NLP  
● Probabilistic models |
| Aishwarya Agrawal   | UdeM                          | ● Computer vision  
● DL  
● NLP |
| Blake Richards      | McGill                        | ● DL+neuroscience  
● Neural data analysis  
● RL |
| Christopher Pal     | Polytechnique / UdeM          | ● Causality  
● Computational photography  
● Computer vision  
● DL  
● NLP  
● Probabilistic models |
| Danny Tarlow        | Google Brain / McGill         | ● Learning to program  
● Probabilistic models |
| Devon Hjelm         | Microsoft Research / UdeM     | ● Information theory  
● NLP  
● RL |
| Doina Precup        | McGill                        | ● Medical ML  
● Reasoning  
● RL |
| Fernando Diaz       | Microsoft Research            | ● Information retrieval |
| Geoffrey Gordon     | Microsoft Research / McGill   | ● Optimization  
● RL  
● Spectral learning |
| Guillaume Rabusseau | UdeM                          | ● Tensor factorization |
| Hugo Larochelle     | Google Brain / UdeM           | ● Computer vision  
● DL  
● NLP |
<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
<th>Research Areas</th>
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</table>
| Ioannis Mitliagkas    | UdeM             | - Continuous optimization  
|                       |                  | - Distributed systems  
|                       |                  | - DL  
|                       |                  | - GANs  
|                       |                  | - Generative models  
|                       |                  | - ML theory  
|                       |                  | - Optimization  |
| Irina Rish            | UdeM             | - DL  
|                       |                  | - DL+neuroscience  
|                       |                  | - Medical ML  
|                       |                  | - Neural data analysis  
|                       |                  | - NLP  
|                       |                  | - RL  
|                       |                  | - Probabilistic models  |
| Jackie Cheung         | McGill           | - NLP  |
| Jian Tang             | HEC / UdeM       | - GANs  
|                       |                  | - Graph neural networks  
|                       |                  | - Interconnected data analysis  
|                       |                  | - Learning on graphs  
|                       |                  | - Molecular modeling  |
| Joelle Pineau         | McGill           | - DL  
|                       |                  | - medical ML  
|                       |                  | - RL  
|                       |                  | - Robotics  |
| Laurent Charlin       | HEC / UdeM       | - Data-mining  
|                       |                  | - NLP  
|                       |                  | - Recommender systems  
|                       |                  | - RL  |
| Marc G. Bellemare     | Google Brain / McGill | - DL  
|                       |                  | - Generative models  
|                       |                  | - Information theory  
|                       |                  | - Online learning  
|                       |                  | - RL  |
| Nicolas Le Roux       | Google Brain / McGill / UdeM | - Computer vision  
|                       |                  | - DL  
|                       |                  | - Optimization  |
| Pascal Vincent        | UdeM             | - DL  
|                       |                  | - Generative models  
|                       |                  | - Medical ML  |
| Pierre-Luc Bacon      | UdeM             | - RL  |
| Prakash Panangaden    | McGill           | - ML theory  
|                       |                  | - Quantum information theory  
<p>|                       |                  | - Semantics and logics for probabilistic systems and languages  |</p>
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<tbody>
<tr>
<td>Reihaneh Rabbany</td>
<td>McGill</td>
<td>Interconnected data analysis</td>
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<tr>
<td>Sarath Chandar</td>
<td>Polytechnique</td>
<td>DL, NLP</td>
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<tr>
<td>Siamak Ravanbakhsh</td>
<td>McGill</td>
<td>Deep Learning, Probabilistic Models, Learning on Graphs, Generative Models, Invariant and Equivariant Representation Learning, ML for Physics and Cosmology</td>
</tr>
<tr>
<td>Simon Lacoste-Julien</td>
<td>UdeM</td>
<td>Causality, Computer vision, Continuous optimization, DL, GANs, Generative models, ML theory, NLP, Optimization</td>
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<td>Siva Reddy* (Jan 2020)</td>
<td>McGill</td>
<td>NLP, Reasoning</td>
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<tr>
<td>William L. Hamilton</td>
<td>McGill</td>
<td>DL, Interconnected data analysis, Learning on graphs, NLP</td>
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<tr>
<td>Yoshua Bengio</td>
<td>UdeM</td>
<td>Causality, Climate change, DL, DL+neuroscience, Dynamical systems, GANs, Generative models, Graph neural networks, Learning on graphs, Medical ML, Molecular modeling, NLP, Recurrent neural networks, RL</td>
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