

Hugo Larochelle

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Education

- **University of Toronto** 2009 - 2011
Postdoc, working with Prof. Geoffrey Hinton Toronto, ON Canada
- **University of Montreal** 2004 - 2009
Ph.D., Computer Science Montreal, QC Canada
- **University of Montreal** 2004 - 2006
MSc, Computer Science Montreal, QC Canada
- **University of Montreal** 2001 - 2004
B.S., Mathematics and Computer Science (GPA 4.3) Montreal, QC Canada
- **Cégep de Saint-Hyacinthe** 1999 - 2001
Diplôme Collégial, Sciences Pures Saint-Hyacinthe, QC Canada

Work History

- **Research Scientist** November 2016 - Now
Google Inc. Mountain View, CA USA, 94043
Google Brain (Montreal office) <https://research.google.com/teams/brain/>
- **Adjunct Professor** June 2017 - Now
Université de Sherbrooke Sherbrooke, QC Canada, J1K 2R1
Département d'informatique <http://www.usherbrooke.ca/informatique/>
- **Adjunct Professor** April 2017 - Now
Université de Montréal Montréal, QC Canada, H3T 1J4
Département d'informatique et de recherche opérationnelle <http://diro.umontreal.ca/>
- **Associate Professor** July 2016 - June 2017
Université de Sherbrooke Sherbrooke, QC Canada, J1K 2R1
Département d'informatique <http://www.usherbrooke.ca/informatique/>
- **Research Scientist** June 2015 - November 2016
Twitter Inc. San Francisco, CA USA, 94103
Cambridge Office <https://twitter.com/>
- **Assistant Professor** July 2011 - July 2016
Université de Sherbrooke Sherbrooke, QC Canada, J1K 2R1
Département d'informatique <http://www.usherbrooke.ca/informatique/>
- **Researcher** October 2008 - March 2009
ApSTAT Technologies Montréal, QC Canada, H2W 2R2
<http://www.apstat.com/>

- participated to the research project *Statistical Machine Learning Algorithms for Target Classification from Acoustic Signature*, conducted by *ApSTAT Technologies* and led by Prof. Yoshua Bengio
- investigated and developed machine learning algorithms for the classification of acoustic sound waves

Research Intern

- Laboratoire d'Informatique des Systèmes Adaptatifs (LISA) May 2003 - August 2003
and May 2004 - August 2004
Montreal, QC Canada
- designed and investigated different machine learning algorithms
- contributed to PLearn, a machine learning library in C++ (<http://plearn.berlios.de/>)

Research Intern

- Laboratoire de Recherche Appliquée en Linguistique Informatique (RALI) May 2002 - August 2002
Montreal, QC Canada
- designed a terminology extraction software in Java
- conducted an empirical study of different statistical metrics for term identification

Scholarships and Awards

- Associate Director of LBM program at Canadian Institute For Advanced Research (CIFAR), 2017
- Personality of the week (along with Yoshua Bengio), La Presse, 2016
- Visiting Professor Appointment at MIT Media Lab, 2016
- Fellow of the Canadian Institute For Advanced Research (CIFAR), 2015
- Google Faculty Research Award, 2013
- Google Faculty Research Award, 2012
- AISTATS Notable Paper Award, 2011
- NSERC Postdoctoral Fellowship, 2009 (80,000\$ over two years)
- Thesis ranked among the top 5% best theses of University of Montreal, 2009
- NSERC Canada Graduate Scholarship Ph.D., 2005 (105,000\$ over three years)
- NSERC Canada Graduate Scholarship M.S., 2004 (17,500\$)
- Scholarship for “passage direct au doctorat”, University of Montreal, 2004 (10,000\$)
- NSERC Undergraduate Student Research Award, 2004 (5625\$)
- NSERC Undergraduate Student Research Award, 2003 (5625\$)
- NSERC Undergraduate Student Research Award, 2002 (5625\$)
- University of Montreal’s Dean Scholarship, 2003 (2000\$)
- University of Montreal’s Dean Scholarship, 2002 (2000\$)
- Third position at MITACS poster competition of Second Canada-France Congress, 2008
- CAE-Fraser Scholarship, 2003 (2000\$)
- University of Montreal Welcoming Scholarship, 2001 (2000\$)
- Governor General’s Bronze Academic Medal, 1999

Grants

- NSERC - Engage, with Coveo as the industrial partner, 2014 (25,000\$)
- FRQNT - Team research project, 2014-2017 (156,000\$)
- FRQNT - New university researchers start up, 2013-2014 (60,000\$)
- NSERC - Discovery grant, 2012-2016 (110,000\$)

Graduated Students

- Mohammad Havaei (Ph.D.)
- Marc-Alexandre Côté (Ph.D.)
- Stanislas Lauly (Ph.D.)
- Yin Zheng (Ph.D.)
- Philippe Poulin (M.Sc.)
- Félix-Antoine Ouellet (M.Sc.)
- Mathieu Germain (M.Sc.)

Publications

Doctoral Thesis

- [1] H. Larochelle, *Études de techniques d'apprentissage non-supervisé pour l'amélioration de l'entraînement supervisé de modèles connexionnistes*. PhD thesis, Université de Montréal, (Montréal, Canada), 2009.

Journal Papers

- [2] S. Lauly, Y. Zheng, A. Allauzen, and H. Larochelle, "Document Neural Autoregressive Distribution Estimation," *Journal of Machine Learning Research*, vol. 18, no. 113, pp. 1–24, 2017.
- [3] Y. Shen, N. C. Harris, S. Skirlo, M. Prabhu, T. Baehr-Jones, M. Hochberg, X. Sun, S. Zhao, H. Larochelle, D. Englund, and M. Soljačić, "Deep learning with coherent nanophotonic circuits," *Nature Photonics*, 2017.
- [4] A. Rohrbach, A. Torabi, M. Rohrbach, N. Tandon, C. Pal, H. Larochelle, A. Courville, and B. Schiele, "Movie Description," *International Journal of Computer Vision*, pp. 1–27, 2017.
- [5] M. Havaei, A. Davy, D. Warde-Farley, A. Biard, A. Courville, Y. Bengio, C. Pal, P.-M. Jodoin, and H. Larochelle, "Brain tumor segmentation with deep neural networks," *Medical Image Analysis*, vol. 35, pp. 18–31, 2017.
- [6] Z. Luo, P.-M. Jodoin, S.-Z. Su, S.-Z. Li, and H. Larochelle, "Traffic Analytics with Low Frame Rate Videos," *IEEE Transactions on Circuits and Systems for Video Technology*, 2016.
- [7] B. Uria, M.-A. Côté, K. Gregor, I. Murray, and H. Larochelle, "Neural Autoregressive Distribution Estimation," *Journal of Machine Learning Research*, vol. 17, no. 205, pp. 1–37, 2016.
- [8] M.-A. Côté and H. Larochelle, "An Infinite Restricted Boltzmann Machine," *Neural Computation*, vol. 28, no. 7, pp. 1265–1288, 2016.
- [9] Y. Ganin, E. Ustinova, H. Ajakan, P. Germain, H. Larochelle, F. Laviolette, M. Marchand, and V. Lempitsky, "Domain-Adversarial Training of Neural Networks," *Journal of Machine Learning Research*, vol. 17, no. 59, pp. 1–35, 2016.
- [10] S. Chandar, M. M. Khapra, H. Larochelle, and B. Ravindran, "Correlational Neural Networks," *Neural Computation*, vol. 28, no. 2, pp. 286–304, 2016.
- [11] Y. Zheng, Y.-J. Zhang, and H. Larochelle, "A Deep and Autoregressive Approach for Topic Modeling of Multimodal Data," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 38, no. 6, pp. 1056–1069, 2016.
- [12] M. Havaei, H. Larochelle, P. Poulin, and P.-M. Jodoin, "Within-Brain Classification for Brain Tumor Segmentation," *International Journal of Computer Assisted Radiology and Surgery*, pp. 1–12, 2015.
- [13] Y. Zheng, Y.-J. Zhang, and H. Larochelle, "A Neural Autoregressive Approach to Attention-based Recognition," *International Journal of Computer Vision*, vol. 113, no. 1, pp. 67–79, 2015.
- [14] Y. J. Trakadis, C. Buote, J.-F. Therriault, P.-E. Jacques, H. Larochelle, and S. Lévesque, "PhenoVar : a phenotype-driven approach in clinical genomics for the diagnosis of polymalformative syndromes," *BMC Medical Genomics*, vol. 7, no. 22, 2014.
- [15] S. Bengio, L. Deng, H. Larochelle, H. Lee, and R. Salakhutdinov, "Guest Editors' Introduction : Special Section on Learning Deep Architectures," *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, vol. 35, no. 8, pp. 1795–1797, 2013.
- [16] J. Snoek, R. Adams, and H. Larochelle, "Nonparametric Guidance of Autoencoder Representations using Label Information," *Journal of Machine Learning Research*, vol. 13, pp. 2567–2588, 2012.
- [17] M. Denil, L. Bazzani, H. Larochelle, and N. de Freitas, "Learning where to Attend with Deep Architectures for Image Tracking," *Neural Computation*, vol. 24, pp. 2151–2184, 2012.
- [18] H. Larochelle, M. Mandel, R. Pascanu, and Y. Bengio, "Learning Algorithms for the Classification Restricted Boltzmann Machine," *Journal of Machine Learning Research*, vol. 13, pp. 643–669, 2012.

- [19] Y. Bengio, N. Chapados, O. Delalleau, H. Larochelle, X. Saint-Mleux, C. Hudon, and J. Louradour, “Detonation Classification from Acoustic Signature with the Restricted Boltzmann Machine,” *Computational Intelligence*, vol. 28, pp. 261–288, 2012.
- [20] P. Vincent, H. Larochelle, I. Lajoie, Y. Bengio, and P.-A. Manzagol, “Stacked Denoising Autoencoders : Learning Useful Representations in a Deep Network with a Local Denoising Criterion,” *Journal of Machine Learning Research*, vol. 11, pp. 3371–3408, 2010.
- [21] H. Larochelle, Y. Bengio, and J. Turian, “Tractable Multivariate Binary Density Estimation and the Restricted Boltzmann Forest,” *Neural Computation*, vol. 22, no. 9, pp. 2285–2307, 2010.
- [22] H. Larochelle, Y. Bengio, J. Louradour, and P. Lamblin, “Exploring Strategies for Training Deep Neural Networks,” *Journal of Machine Learning Research*, vol. 10, pp. 1–40, 2009.
- [23] Y. Bengio, M. Monperrus, and H. Larochelle, “Nonlocal Estimation of Manifold Structure,” *Neural Computation*, vol. 18, pp. 2509–2528, 2006.

Conference Papers

- [24] M. Ren, E. Triantafillou, S. Ravi, J. Snell, K. Swersky, J. B. Tenenbaum, H. Larochelle, and R. S. Zemel, “Meta-learning for semi-supervised few-shot classification,” in *Proceedings of the 6th International Conference on Learning Representations (ICLR 2018)*, 2018.
- [25] M. Vartak, A. Thiagarajan, C. Miranda, J. Bratman, and H. Larochelle, “A Meta-Learning Perspective on Cold-Start Recommendations for Items,” in *Advances in Neural Information Processing Systems 30 (NIPS 2017)*, 2017.
- [26] H. de Vries, F. Strub, J. Mary, H. Larochelle, O. Pietquin, and A. Courville, “Modulating early visual processing by language,” in *Advances in Neural Information Processing Systems 30 (NIPS 2017)*, 2017.
- [27] P. Poulin, M.-A. Côté, J.-C. Houde, L. Petit, P. F. Neher, K. H. Maier-Hein, H. Larochelle, and M. Descoteaux, “Learn to Track : Deep Learning for Tractography,” in *Proceedings of 20th International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI 2017)*, pp. 540–547, 2017.
- [28] H. de Vries, F. Strub, S. Chandar, O. Pietquin, H. Larochelle, and A. Courville, “GuessWhat?! Visual object discovery through multi-modal dialogue,” in *Proceedings of the 2017 IEEE Conference on Computer Vision and Pattern Recognition (CVPR 2017)*, 2017.
- [29] S. Ravi and H. Larochelle, “Optimization as a Model for Few-Shot Learning,” in *Proceedings of the 5th International Conference on Learning Representations (ICLR 2017)*, 2017.
- [30] L. Bazzani, H. Larochelle, and L. Torresani, “Recurrent Mixture Density Network for Spatiotemporal Visual Attention,” in *Proceedings of the 5th International Conference on Learning Representations (ICLR 2017)*, 2017.
- [31] A. Almahairi, N. Ballas, T. Cooijmans, Y. Zheng, H. Larochelle, and A. Courville, “Dynamic Capacity Networks,” in *Proceedings of the 33rd International Conference on Machine Learning (ICML 2016)*, 2016.
- [32] A. B. L. Larsen, S. r. K. Sø nderby, H. Larochelle, and O. Winther, “Autoencoding beyond pixels using a learned similarity metric,” in *Proceedings of the 33rd International Conference on Machine Learning (ICML 2016)*, 2016.
- [33] L. Yao, A. Torabi, K. Cho, N. Ballas, C. Pal, H. Larochelle, and A. Courville, “Describing Videos by Exploiting Temporal Structure,” in *IEEE International Conference on Computer Vision (ICCV)*, pp. 4507–4515, 2015.
- [34] M. Germain, K. Gregor, I. Murray, and H. Larochelle, “MADE : Masked Autoencoder for Distribution Estimation,” in *Proceedings of the 32nd International Conference on Machine Learning (ICML 2015)*, 2015.
- [35] F. Bisson, H. Larochelle, and F. Kabanza, “Using a Recursive Neural Network to Learn an Agent’s Decision Model for Plan Recognition,” in *Proceedings of the 24th International Joint Conference on Artificial Intelligence (IJCAI 2015)*, pp. 918–924, 2015.

- [36] S. Chandar, S. Lauly, H. Larochelle, M. Khapra, B. Ravindran, V. Raykar, and A. Saha, “An Autoencoder Approach to Learning Bilingual Word Representations,” in *Advances in Neural Information Processing Systems 27 (NIPS 2014)*, pp. 1853–1861, 2014.
- [37] Y. Zheng, Y.-J. Zhang, and H. Larochelle, “Topic Modeling of Multimodal Data : an Autoregressive Approach,” in *Proceedings of the 2014 IEEE Conference on Computer Vision and Pattern Recognition (CVPR 2014)*, pp. 1370–1377, 2014.
- [38] B. Uria, I. Murray, and H. Larochelle, “A Deep and Tractable Density Estimator,” in *Proceedings of the 31st International Conference on Machine Learning (ICML 2014)*, pp. 467–475, 2014.
- [39] A. Lacoste, M. Marchand, F. Laviolette, and H. Larochelle, “Agnostic Bayesian Learning of Ensembles,” in *Proceedings of the 31st International Conference on Machine Learning (ICML 2014)*, pp. 611–619, 2014.
- [40] A. Lacoste, H. Larochelle, M. Marchand, and F. Laviolette, “Sequential Model-Based Ensemble Optimization,” in *Proceedings of the 30th Conference on Uncertainty in Artificial Intelligence (UAI 2014)*, pp. 440–448, 2014.
- [41] L. Charlin, R. S. Zemel, and H. Larochelle, “Leveraging user libraries to bootstrap collaborative filtering,” in *Proceedings of the 20th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD 2014)*, 2014.
- [42] M. Havaei, P.-M. Jodoin, and H. Larochelle, “Efficient interactive brain tumor segmentation as within-brain kNN classification,” in *Proceedings of the 22nd International Conference on Pattern Recognition (ICPR 2014)*, 2014.
- [43] B. Uria, I. Murray, and H. Larochelle, “RNADE : The real-valued neural autoregressive density-estimator,” in *Advances in Neural Information Processing Systems 26 (NIPS 2013)*, pp. 2175–2183, 2013.
- [44] H. Larochelle and S. Lauly, “A Neural Autoregressive Topic Model,” in *Advances in Neural Information Processing Systems 25 (NIPS 2012)*, pp. 2717–2725, 2012.
- [45] J. Snoek, H. Larochelle, and R. Adams, “Practical Bayesian Optimization of Machine Learning Algorithm,” in *Advances in Neural Information Processing Systems 25 (NIPS 2012)*, pp. 2951–2959, 2012.
- [46] M. Volkovs, H. Larochelle, and R. Zemel, “Learning to Rank By Aggregating Expert Preferences,” in *Proceedings of the 21st ACM International Conference on Information and Knowledge Management (CIKM 2012)*, pp. 843–851, 2012.
- [47] G. E. Dahl, R. P. Adams, and H. Larochelle, “Training Restricted Boltzmann Machines on Word Observations,” in *Proceedings of the 29th International Conference on Machine Learning (ICML 2012)*, pp. 679–686, 2012.
- [48] J. Snoek, R. P. Adams, and H. Larochelle, “On Nonparametric Guidance for Learning Autoencoder Representations,” in *Proceedings of the 15th International Conference on Artificial Intelligence and Statistics (AISTATS 2012)*, pp. 1073–1080, 2012.
- [49] H. Larochelle and I. Murray, “The Neural Autoregressive Distribution Estimator,” in *Proceedings of the 14th International Conference on Artificial Intelligence and Statistics (AISTATS 2011)*, vol. 15, (Ft. Lauderdale, USA), pp. 29–37, JMLR W&CP, 2011.
- [50] J. Louradour and H. Larochelle, “Classification of Sets using Restricted Boltzmann Machines,” in *Proceedings of the 27th Conference on Uncertainty in Artificial Intelligence (UAI 2011)*, (Barcelona, Spain), pp. 463–470, AUAI Press, 2011.
- [51] V. Mnih, H. Larochelle, and G. E. Hinton, “Conditional Restricted Boltzmann Machines for Structured Output Prediction,” in *Proceedings of the 27th Conference on Uncertainty in Artificial Intelligence (UAI 2011)*, (Barcelona, Spain), pp. 514–522, AUAI Press, 2011.
- [52] L. Bazzani, N. de Freitas, H. Larochelle, V. Murino, and J.-A. Ting, “Learning Attentional Policies for Tracking and Recognition in Video with Deep Networks,” in *Proceedings of the 28th International Conference on Machine Learning (ICML 2011)*, (Bellevue, USA), pp. 937–944, ACM, 2011.

- [53] H. Larochelle and G. E. Hinton, “Learning to combine foveal glimpses with a third-order Boltzmann machine,” in *Advances in Neural Information Processing Systems 23 (NIPS 2010)*, (Vancouver, Canada), pp. 1243–1251, 2010.
- [54] R. Salakhutdinov and H. Larochelle, “Efficient Learning of Deep Boltzmann Machines,” in *Proceedings of the 13th International Conference on Artificial Intelligence and Statistics (AISTATS 2010)*, vol. 9, (Sardinia, Italy), pp. 693–700, JMLR W&CP, 2010.
- [55] H. Larochelle, D. Erhan, and P. Vincent, “Deep Learning using Robust Interdependent Codes,” in *Proceedings of the 12th International Conference on Artificial Intelligence and Statistics (AISTATS 2009)*, (Clearwater Beach, USA), pp. 312–319, JMLR W&CP, 2009.
- [56] H. Larochelle and Y. Bengio, “Classification using Discriminative Restricted Boltzmann Machines,” in *Proceedings of the 25th International Conference on Machine Learning (ICML 2008)*, (Helsinki, Finland), pp. 536–543, ACM, 2008.
- [57] H. Larochelle, D. Erhan, and Y. Bengio, “Zero-data Learning of New Tasks,” in *Proceedings of the 23rd AAAI Conference on Artificial Intelligence (AAAI 2008)*, (Chicago, USA), pp. 646–651, 2008.
- [58] P. Vincent, H. Larochelle, Y. Bengio, and P.-A. Manzagol, “Extracting and Composing Robust Features with Denoising Autoencoders,” in *Proceedings of the 25th International Conference on Machine Learning (ICML 2008)*, (Helsinki, Finland), pp. 1096–1103, ACM, 2008.
- [59] H. Larochelle, D. Erhan, A. Courville, J. Bergstra, and Y. Bengio, “An Empirical Evaluation of Deep Architectures on Problems with Many Factors of Variation,” in *Proceedings of the 24th International Conference on Machine Learning (ICML 2007)*, (Corvalis, USA), pp. 473–480, ACM, 2007.
- [60] Y. Bengio, P. Lamblin, D. Popovici, and H. Larochelle, “Greedy Layer-Wise Training of Deep Networks,” in *Advances in Neural Information Processing Systems 19 (NIPS 2006)*, (Vancouver, Canada), pp. 153–160, MIT Press, 2007.
- [61] Y. Bengio, H. Larochelle, and P. Vincent, “Non-Local Manifold Parzen Windows,” in *Advances in Neural Information Processing Systems 18 (NIPS 2005)*, (Vancouver, Canada), pp. 115–122, MIT Press, 2006.

Professional activities

Editorial Boards and Program Committees :

- **Board Member** of the *International Machine Learning Society*.
- **Program co-chair** for the *Neural Information Processing Systems* (NIPS) conference in 2018.
- **Area chair** for the *International Conference on Machine Learning* (ICML) in 2018.
- **Senior Area chair** for the *Neural Information Processing Systems* (NIPS) conference in 2017.
- **Area chair** for the *International Conference on Machine Learning* (ICML) in 2017.
- **Program chair** for the *International Conference on Representation Learning* (ICLR), in 2017.
- **Program chair** for the *International Conference on Representation Learning* (ICLR), in 2016.
- **Area chair** for the *Neural Information Processing Systems* (NIPS) conference in 2016.
- **Area chair** for the *International Conference on Machine Learning* (ICML) in 2016.
- **Area chair** for the *Neural Information Processing Systems* (NIPS) conference in 2015.
- **Program chair** for the *International Conference on Representation Learning* (ICLR), in 2015.
- **Area chair** for the *International Conference on Machine Learning* (ICML) in 2015.
- **Area chair** and **demonstration chair** for the *Neural Information Processing Systems* (NIPS) conference in 2014.
- Member of the **editorial board** for the *Journal of Artificial Intelligence Research* (JAIR).
- **Associate editor** for the *IEEE Transactions on Pattern Analysis and Machine Intelligence* (TPAMI), 2013-2018.
- **Area chair** and **presentation chair** for the *Neural Information Processing Systems* (NIPS) conference in 2013.
- **Guest editor** for the special issue on *Learning Deep Architectures* of the *IEEE Transactions on Pattern Analysis and Machine Intelligence* (TPAMI).
- **Senior program committee member** for the international conference *Uncertainty in Artificial Intelligence* (UAI) for 2012.

Workshop Organization :

- Co-organizing the *Workshop on Meta-Learning* at the *Neural Information Processing Systems* (NIPS) conference, in 2017, with Roberto Calandra, Frank Hutter and Sergey Levine.
- Creation of the Montreal AI Symposium, in 2017, with Joelle Pineau, Nicolas Chapados and Adam Trischler.
- Co-organizing the *Transferring and Adapting Source Knowledge in Computer Vision Workshop* at the *International Conference on Computer Vision* (ICCV), in 2015, with Antonio M. López, Francesco Orabona, Tatiana Tommasi, Erik Rodner, David Vázquez and Jiaolong Xu.
- Co-organizing the *Describing and Understanding Video Workshop* at the *International Conference on Computer Vision* (ICCV), in 2015, with Anna Rohrbach, Atousa Torabi, Marcus Rohrbach, Christopher Pal, Aaron Courville and Bernt Schiele.
- Co-organizing the *3rd Workshop on Continuous Vector Space Models and their Compositionality* at the *Association for Computational Linguistics* (ACL) conference, in 2015, with Alexandre Allauzen, Edward Grefenstette, Karl Moritz Hermann and Scott Wen-tau Yih.
- *International Conference on Machine Learning* (ICML) conference, in 2014, with Frank Hutter, Rich Caruana, Rémi Bardenet, Misha Bilenko, Isabelle Guyon and Balazs Kegl.
- Co-organizing the *2nd Workshop on Continuous Vector Space Models and their Compositionality* at the *European Chapter of the Association for Computational Linguistics* (EACL) conference, in 2014, with Alexandre Allauzen, Raffaella Bernardi, Edward Grefenstette, Christopher Manning and Scott Wen-tau Yih.
- Co-organizing the *Deep Learning Workshop* at the *Neural Information Processing Systems* (NIPS) conference, in 2013, with Yoshua Bengio and Ruslan Salakhutdinov.
- Co-organized the *Workshop on Continuous Vector Space Models and their Compositionality* at the *Association for Computational Linguistics* (ACL) conference, in 2013, with Alexandre Allauzen,

Christopher Manning and Richard Socher.

- Co-organized the workshop on *Representation Learning* at the *International Conference on Machine Learning* (ICML), in 2012, with Aaron Courville, Marc'Aurelio Ranzato and Yoshua Bengio.
- Co-organized the *Deep Learning Workshop*, held as a satellite meeting at the *Neural Information Processing Systems* (NIPS) conference 2007. For more details, see <http://www.iro.umontreal.ca/~lisa/deepNIPS2007>.

Other committees :

- Member of the scientific committee for the “Institut de Montréal pour les algorithmes d'apprentissage”, 2014-2018.
- Member of the computer science evaluation committee for the FRQNT “Établissement de nouveaux chercheurs universitaires” program, 2015-2016.
- Member of the computer science evaluation committee for the FRQNT “Établissement de nouveaux chercheurs universitaires” program, 2014-2015.

Invited Presentations :

- Keynote at the *Forum IA Responsable*, in Montreal, Canada, in November 2017.
- Tutorial on deep learning for medical imaging at the *MICCAI 2017* conference in Quebec City, Canada, in September 2017.
- Keynote at the *Canadian Conference on Artificial Intelligence*, in Edmonton, Canada, in May 2017.
- Tutorial on deep learning at the *AERFAI Autumn School on Deep Learning* in Valencia, Spain, in October 2014.
- Tutorial on deep learning at the *European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases* (ECML/PKDD), in Nancy, France, in September 2014.
- Tutorial on deep learning at the *Summer school on deep learning for image analysis* in Rudkøbing, Denmark, in August 2014.
- Research talk at the Imperial College London (*Computational Methods Workshop for Massive/Complex Data*), London, England, in June 2014.
- Tutorial on deep learning at the *ICT Deep Learning & Machine Translation Workshop* in Ottawa, Canada, in January 2014.
- Research talk at Harvard (Institute for Applied Computational Science), Cambridge, USA, in November 2013.
- Research talk at the *ICML Prediction with Sequential Models Workshop*, Atlanta, USA, in June 2013.
- Tutorial on *deep learning* at the *Summer School on Neural Networks in Classification, Regression and Data Mining* in Porto, Portugal, in July 2012.
- Research talk at CIFAR NCAP Workshop, Granada, Spain, in December 2011.
- Research talk at the AISTATS conference, Ft. Lauderdale, USA, in April 2011 (paper [49]).
- Research talk at the NIPS conference, Vancouver, Canada, in December 2010 (paper [53]).
- Research talk at Université Paris-Sud, France, in May 2010.
- Invited 2-day tutorial on deep learning at Université Laval, Canada, in March 2010.
- Research talk at Learning Workshop, Snowbird, USA, April 2007.

Reviewing Activity :

— Journals :

1. *Journal of Machine Learning Research* (JMLR)
2. *IEEE TPAMI*
3. *International Journal of Computer Vision* (IJCV)
4. *IEEE Transactions on Neural Networks*
5. *International Journal of Pattern Recognition and Artificial Intelligence*

— **Conferences :**

1. *Conference on Neural Information Processing Systems* (NIPS)
2. *International Conference on Machine Learning* (ICML)
3. *International Conference on Artificial Intelligence and Statistics* (AISTATS)
4. *Conference on Uncertainty in Artificial Intelligence* (UAI)
5. *International Joint Conference on Artificial Intelligence* (IJCAI)
6. *European Conference on Machine Learning* (ECML)
7. *International Conference on Artificial Neural Networks* (ICANN)

— **Others :**

1. *Nature Communications*
2. *National Science Foundation (NSF)*
3. *NSERC (Discovery Grant program)*

Online courses :

— **Intelligence artificielle :**

<https://www.youtube.com/playlist?list=PL6Xpj9I5qXYGhsvMWM53ZLfwUInzvYWsm>

— **Apprentissage automatique :**

https://www.youtube.com/playlist?list=PL6Xpj9I5qXYFD_rc1tttugXLfE2TcKyi0

— **Neural networks :**

<https://www.youtube.com/playlist?list=PL6Xpj9I5qXYEc0hn7TqghAJ6NAPrNmUBH>

— **Traitement automatique des langues :**

<https://www.youtube.com/playlist?list=PL6Xpj9I5qXYHMDt3aBiI2KVff8c5Cwlfe>

Company :

- Co-founder of **Whetlab** (<http://www.whetlab.com/>), acquired by Twitter in 2015