Faruk Ahmed

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Education

Sep 2017 - Aug 2022	**PhD Candidate**, Computer Science (Specialization in AI) Université de Montréal (Mila), supervised by Aaron Courville *Thesis*: Improving predictive behaviour under distributional shift
Sep 2015 - Aug 2017	**Master of Science**, Computer Science (Specialization in AI) Université de Montréal, supervised by Aaron Courville *Thesis*: Generative modelling of natural images
Aug 2009 - Jul 2013	**Bachelor of Technology**, Electronics and Communication Engineering Institute of Engineering and Management, Kolkata

Experience

Sep 2021 - Ongoing	**Visiting predoctoral student**, Mayo Clinic *AI for oncology*: Collaborating with clinicians and medical researchers (Tufia Haddad, Celine Vachon, and others) to assess predictability of breast cancer recurrence from mammograms using deep neural networks.
Oct 2013 - Aug 2015	**Visiting research scholar**, Virginia Tech *Computer vision and machine learning*: Research with probabilistic graphical models for semantic segmentation, and representation learning with neural networks. Papers published at ICCV and ICLR. Supervised by Dhruv Batra, collaborated with Daniel Tarlow, Ross Girshick, Larry Zitnick.
Aug 2009 - Jul 2013	**Data science intern**, SimpleReach *Social network activity analysis*: Querying and aggregating data from large datasets, analyzing social network activity to help draw conclusions, evaluating machine learning algorithms for predicting popularity of posts.

Papers (Google Scholar link)

Peer-reviewed publications

1. Systematic generalisation with group invariant predictions. *Faruk Ahmed*, Yoshua Bengio, Harm van Seijen, and Aaron Courville (ICLR 2021, **Spotlight Talk**)

2. Integrating categorical semantics into unsupervised domain translation. Samuel Lavoie-Marchildon, *Faruk Ahmed*, and Aaron Courville (ICLR 2021)

3. Detecting semantic anomalies. *Faruk Ahmed* and Aaron Courville (AAAI 2020, **Spotlight Talk**)

4. Probability distillation: A caveat and alternatives. Chin-Wei Huang*, *Faruk Ahmed** (joint first authors), Kundan Kumar, Alexandre Lacoste, and Aaron Courville (UAI 2019)

5. Improved training of Wasserstein GANs. Ishaan Gulrajani, *Faruk Ahmed*, Martín Arjovsky, Vincent Dumoulin, and Aaron Courville (NeurIPS 2017)

6. PixelVAE: A latent variable model for natural images. Ishaan Gulrajani, Kundan Kumar, *Faruk Ahmed*, Adrien Ali Taiga, Francesco Visin, David Vázquez, and Aaron Courville (ICLR 2017)

7. Reducing overfitting in deep networks by decorrelating representations. Michael Cogswell, *Faruk Ahmed*, Ross Girshick, Larry Zitnick, and Dhruv Batra (ICLR 2016)

8. Optimizing expected intersection-over-union with candidate constrained CRFs. *Faruk Ahmed*, Daniel Tarlow, and Dhruv Batra (ICCV 2015)

9. Removal of high-density salt-and-pepper noise in images with an iterative adaptive fuzzy filter using alpha-trimmed mean. *Faruk Ahmed* and Swagatam Das (IEEE Transactions on Fuzzy Systems, Vol. 22, Issue 5, 2013)

In submission

10. OOD generalization with test-time pseudo labels. *Faruk Ahmed* and Aaron Courville, 2022.

Programming

- Past experience with HTML/CSS/JS, J2EE, SQL, Pig, R, C/C++, OpenCV, MATLAB

- Currently Python, deep learning frameworks TensorFlow and PyTorch (GitHub: Faruk-Ahmed)

Miscellaneous

- Reviewer for NeurIPS, ICML, ICLR, AAAI, JMLR, T-PAMI, some workshops.

- Outstanding Reviewer Award for NeurIPS 2021. Top Reviewer for ICML 2020, NeurIPS 2019.

- Recipient of the Université de Montréal *Bourse C* Scholarship during my Masters and Doctoral studies.