Imtiaz Masud Ziko

✉ ziko.iut@gmail.com
🌐 https://imtiazziko.github.io/
🐙 https://github.com/imtiazziko
🔗 http://www.linkedin.com/in/imtiazmasud

Skills and Interest

Coding	Python, C++, MATLAB,
Deep Learning Libraries	PyTorch, Tensorflow
Misc. tools	PyCharm, Streamlit, Git, Inkscape, LaTeX, Numpy, Pandas, Numba, Multiprocessing, Cython, Scipy, Opengl, OpenMP, Scikit-learn, Cuda kernel, MatplotLib.
Databases	Mysql, sqlite.
Web Dev	Html, css, php, JavaScript, Codeigniter. Django
Languages	English, French (basic), Bengali (native).
Organizer	IPTA 2017 (ETS), ICT FEST 2011 (IUT)
Review activity	MIDL 2020, MAIS 2020, ICCV 2019, IPTA 2018, 2017.
Research experience & Interests	Unsupervised/Semi-supervised Learning, Deep Learning, Graph Neural Network, Few-shot Learning, Fairness in learning, Domain Adaptation, Representation Learning, Scalable and efficient clustering, Convex optimization, Variational inference model.

Education

May 2016 – July 2020	**PhD., Machine Learning, École de Technologie Supérieure (ETS)**, Montréal, Canada. Thesis title: Flexible and Scalable Models for Clustering and Few-Shot Learning. External committee member: Jean-Christophe Pesquet, University Paris-Saclay, Inria.
Sept 2012 – Oct 2014	**MSc. Norwegian University of Science and Technology**, **University of Granada** and **University Jean Monnet**. Erasmus Mundus masters in Color in Informatics and Media Technology (CIMET) specializing in computer vision.

Publications

1 **Ziko**, **I. M.**, Yuan, J., Granger, E., & Ayed, I. B. (2021). Variational fair clustering. *AAAI Conference on Artificial Intelligence.* 🔗 https://arxiv.org/pdf/1906.08207.pdf

2 Boudiaf, M., **Ziko**, **I. M.**, Rony, J., Dolz, J., Piantanida, P., & Ayed, I. B. (2020). Transductive information maximization for few-shot learning. *Neural Information Processing Systems (NeurIPS).* 🔗 https://arxiv.org/pdf/2008.11297.pdf

3 **Ziko, I. M.**, Dolz, J., Granger, E., & Ayed, I. B. (2020). Laplacian regularized few-shot learning. *International Conference on Machine Learning (ICML).* 🔗 https://arxiv.org/pdf/2006.15486.pdf

4 Boudiaf, M., Rony, J., **Ziko**, **I. M.**, Granger, E., Pedersoli, M., Piantanida, P., & Ayed, I. B. (2020). A unifying mutual information view of metric learning: Cross-entropy vs. pairwise losses [Spotlight]. *European Conference on Computer Vision (ECCV).* 🔗 https://arxiv.org/pdf/2003.08983.pdf

5   **Ziko**, **I. M.**, Granger, E., & Ayed, I. B. (2018). Scalable laplacian k-modes [Spotlight]. *Neural Information Processing Systems (NeurIPS)*.
🔗 `https://papers.nips.cc/paper/8208-scalable-laplacian-k-modes.pdf`

6   **Ziko**, **I. M.**, Beigpour, S., & Hardeberg, J. Y. (2014). Design and creation of a multi-illuminant scene image dataset. *International Conference on Image and Signal Processing (ICISP)*.
🔗 `https://link.springer.com/chapter/10.1007/978-3-319-07998-1_61`

Employment History

Sept 2020 – Present	**Postdoctoral Researcher.** Ecole de Technologie Superieure (ETS), Montreal , Canada. Projects: Representation Learning, Clustering, Fair clustering, Semi-Supervised Learning, Few-shot learning.
Jan 2015 – Dec 2015	**Lecturer.** Computer Science Department, American International University-Bangladesh. Courses taught: C/C++, Algorithms, Computer Graphics, Computer vision and pattern recognition.
Jan 2014 – Jul 2014	**Research Intern.** Hubert Curien Laboratory – UMR CNRS 5516, France. Research topic: Subspace learning for Bag of Words (BOW) model.
Oct 2010 – Dec 2010	**Software Developer Intern** Right Brain Solution Ltd, Bangladesh. Project: Developed CRM ticket management system using PHP (Codeigniter) and MySql.

Projects

2020	Few-shot learning. Published in ICML and Neurips 2020. Github: `https://github.com/imtiazziko/LaplacianShot`
	Metric Learning. Published in ECCV 2020 as spotlight. Github: `https://github.com/jeromerony/dml_cross_entropy`
2019	Flexible and scalable clustering method with fairness constraints for ethical decisions. Github: `https://github.com/imtiazziko/Variational-Fair-Clustering`
	Robust loss functions for domain adaptive person re-identification.
2018	Scalable joint graph clustering and density mode estimation for large scale applications. Published in Neurips 2018 as spotlight. Github: `https://github.com/imtiazziko/SLK`
2014	Spectral subspace clustering for visual dictionary creation in the context of image classification. Published in ACPR 2015. Hubert Curien Laboratory, France.
	Design and Creation of a Multi-Illuminant Scene Image Dataset for Color Constancy Research. Published in ICISP 2014. The Norwegian Colour and Visual Computing Laboratory - NTNU, Norway.

(continued)

▍ Waste sorting using multi-spectral imaging and machine learning.
In collaboration with ZenRobotics (Finland), University of Eastern Finland and Norwegian University of Science and Technology.

Awards

2020 ▍ Mention in **ÉTS honor list**.

2012 – 2014 ▍ **Erasmus Mundus Category A scholarship** of an amount of 48,000 Euros for Master program by European Commission, selected among 500 candidates.

2009 – 2011 ▍ OIC scholarship for undergraduate studies in IUT.

2008 – 2011 ▍ Four years govt. scholarship for getting GPA 5.00 in H.S.C exam.

Talks

July 2020 ▍ *Laplacian Regularized Few-shot Learning* at ICML 2020 (Virtual).

Dec 2019 ▍ *Fairness in unsupervised Learning* at CAÉC ÉTS, Montréal.

Dec 2018 ▍ *Scalable Laplacian K-modes* at Neurips 2018, Montréal.

References

Ismail Ben Ayed
Professor
ETS Montreal
Canada.
✉ ismail.benayed@etsmtl.ca

Jean-Christophe PESQUET
Professor
Center for Visual Computing - OPIS Inria group
CentraleSupelec - University Paris-Saclay
France.
✉ jean-christophe.pesquet@centralesupelec.fr

Eric Granger
Professor
ETS Montreal
Canada.
✉ eric.granger@etsmtl.ca