Imtiaz Masud Ziko

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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. ReactJS
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, Constraint Clustering, Few-shot Learning, Fairness in learning, Domain Adaptation, Representation/Metric Learning, Scalable and efficient learning models, Convex optimization, Variational inference models.

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. Boudiaf, M., Rony, J., **Ziko**, **I. M.**, Granger, E., Pedersoli, M., Piantanida, P., & Ayed, I. B. (2020). Metric learning: Cross-entropy vs. pairwise losses [Spotlight]. *European Conference on Computer Vision (ECCV)*. https://arxiv.org/pdf/2003.08983.pdf
2. Boudiaf, M., **Ziko**, **I. M.**, Rony, J., Dolz, J., Piantanida, P., & Ayed, I. B. (2020). Transductive information maximization for few-shot learning. 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. **Ziko**, **I. M.**, Granger, E., Yuan, J., & Ayed, I. B. (2020). Variational fair clustering. https://arxiv.org/pdf/1906.08207.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

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: CRM ticket managment system using PHP (Codeigniter) and MySql.

Projects

2020 — Few-shot learning.
Published in ICML 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.

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 — Nominated for **ETS Award of Excellence** for the best doctoral dissertation.

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

(continued)

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

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