Imtiaz Masud Ziko

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Employment History

Jan 2021 – Present
Lead R&T, AI. Thales Digital Solutions Inc, Montreal , Canada.

Sept 2020 – Dec 2020
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.

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.

Skills and Interest

Coding	Python, C++, MATLAB,
Deep Learning Libraries	PyTorch
Misc. tools	Kubernetes, Docker, PyCharm, Streamlit, Git, Inkscape, LaTeX.
Databases	Mysql, sqlite.
Web Dev	Html, css, php, JavaScript, Django, Flask
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.

Skills and Interest (continued)

Research experience & Interests

- Unsupervised/Semi-supervised Learning, Explainable AI, Graph Neural Network, Few-shot Learning, Fairness in learning, Domain Adaptation, Representation Learning, Scalable and efficient clustering, Convex optimization.

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

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.

(continued)

- 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 — 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.

2008 – 2011 — Four years govt. scholarship for getting GPA 5.00/5.00 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

Available on Request