Imtiaz Masud Ziko

Contact Information

Email: ziko.iut@gmail.com
Homepage: https://imtiazziko.github.io/
LinkedIn: http://www.linkedin.com/in/imtiazmasud

Research interest

Unsupervised learning, Domain adaptation, Deep learning, Optimization methods in learning.

Education

École de Technologie Supérieure – University of Quebec, Canada.

PhD in Computer Science, May 2016 to July 2020 (Expected)

Supervisor: Prof. Ismail Ben Ayed

Erasmus Mundus Masters in Color in Informatics and Media Technology (CIMET)

Norwegian University of Science and Technology (NTNU), Norway.
University of Granda, Spain.
Université Jean Monnet, France. Sept 2012 to Oct 2014

Islamic University of Technology (IUT), Bangladesh

Bachelor of Science (Honors), Jan 2008 to Nov 2011
Computer Science and Information Technology

Work Experience

PhD Candidate (Machine Learning) May 2016 to Present

École de Technologie Supérieure – University of Quebec,
Montreal, Canada.

Lecturer Jan 2015 to Dec 2015

Computer Science and Engineering Department,
American International University-Bangladesh,
Dhaka, Bangladesh.

- **Courses:** Computer Vision and Pattern Recognition, Computer Graphics, Algorithm Design, Programming Language 1 (C/C++).

Research Intern Jan 2014 to Jul 2014

Hubert Curien Laboratory,
St. Etienne, France.

- **Research topic:** Subspace learning in Bag of Words (BOW) model for image classification.

Software Developer Oct 2010 to Dec 2010

Right Brain Solution Ltd,
Dhaka, Bangladesh.

- Developed a ticket management system for a website for customer relationship management using Codeigniter framework, PHP and MySql.

Recently working on

Fairness in clustering algorithms.

Domain Adaptation.

Metric learning.

Bound Optimization methods.

Scalable Laplacian K-modes.

- Published in **Neurips** 2018.

Previous Academic Projects

Spectral subspace clustering for visual dictionary creation in the context of image classification.
Hubert Curien Laboratory, France. 2014

- Published in ACPR 2015.

Design and Creation of a Multi-Illuminant Scene Image Dataset for Color Constancy Research
The Norwegian Colour and Visual Computing Laboratory - Norwegian University of Science and Technology. 2013

- Published in ICISP 2014.

Waste sorting using multi-spectral imaging and machine learning methods.
ZenRobotics (Finland), University of Eastern Finland and Norwegian University of Science and Technology. 2013

- Multi-spectral imaging for better waste sorting systems. Experimented with SVM, Random forest on multi-spectral high dimensional data to identify different kinds of materials (plastics, papers, stones etc).

Exploiting saliency map to improve similar image retrieval by image search
Norwegian University of Science and Technology. 2013

- Exploiting visual saliency map from the image to improve image retrieval where ranking of images is done based on similarity using region based saliency map and LBP features.

Formulate an enhanced adaptive median filtering technique to remove high density salt and paper noise from digital image
Islamic University of Technology (IUT) 2011

- Published in ICCIT 2011.

Skills and Interest

- **Programming:** Python, C++, Matlab.
- **Deep learning libraries:** Pytorch.
- Experienced in using Numpy, Numba JIT, Cython, Scipy, Opengl, OpenMP, Scikit-learn, Cuda kernel, MatplotLib.
- **Web Programming:** HTML, CSS, PHP, Codeigniter, jQuery, MYSQL.
- Git, Inkscape, Latex.
- Hands on experience in using Spectrophotometer, Spectroradiometer, Machine vision lighting system and capturing devices.
- **Languages:** Bengali (native), English, French (basic).
- **Organizer** – IPTA 2017 (ETS), ICT FEST 2011 (IUT).
- **Interests and hobbies:** Reading, Guitar playing. **Sports**– soccer, cricket, badminton, played in Inter-School cricket and soccer tournaments held in 2004 and 2005.

Publications

1. Malik Boudiaf, Jrme Rony, Imtiaz Masud Ziko, Eric Granger, Marco Pedersoli, Pablo Piantanida and Ismail Ben Ayed. "Metric learning: cross-entropy vs. pairwise losses". *arXiv*, 2020.

2. Imtiaz Masud Ziko, Eric Granger, Jing Yuan and Ismail Ben Ayed. "Clustering with Fairness Constraints: A Flexible and Scalable Approach". *arXiv*, 2019.

3. Imtiaz Masud Ziko, Eric Granger and Ismail ben Ayed. "Scalable Laplacian K-modes". *Neural Information Processing Systems conference (NIPS)*, Montreal, Canada, December 2018. (*Spotlight*)

4. Imtiaz Masud Ziko, Elisa Fromont, Damien Muselet and Marc Sebban. "Supervised Spectral Subspace Clustering for Visual Dictionary Creation in the Context of Image Classification." *Asian Conference on Pattern Recognition (ACPR)*, IEEE, November 2015.

5. Imtiaz Masud Ziko, Shida Beigpour and Jon Y. Herdeberg. "Design and Creation of a Multi-Illuminant Scene Image Dataset." *International Conference on Image and Signal Processing (ICISP)*, Springer, 531–538, July 2014.

6. Md Imrul Jubair, Md Mizanur Rahman and Syed Ashfaqueuddin and Imtiaz Masud Ziko. "An enhanced decision based adaptive median filtering technique to remove Salt and Pepper noise in digital images." *International Conference on Computer and Information Technology (ICCIT)*, 428–433, November 2011.

Awards & Scholarships

- ETS PhD fellowship.
- Erasmus Mundus Category A scholarship for Masters awarded by European Commission.
- Three Years full scholarship from OIC during Bachelor study along with stipend.
- Four years Govt. Scholarship for H.S.C from Dhaka Board.
- Two years Govt. Scholarship in Talent Pool for S.S.C from Dhaka Board.

Services

- Review activity: MIDL 2020, ICCV 2019, ACCV 2018, IPTA 2018, 2017.

References

Ismail Ben Ayed
Associate professor,
Research Chair on Artificial Intelligence in Medical Imaging,
École de technologie supérieure, University of Québec
Montreal(QC),Canada
E-mail: ismail.benayed@etsmtl.ca

Eric Granger
Professor and Director of the LIVIA,
Department of Automated Manufacturing Engineering,
École de technologie supérieure, University of Québec
Montreal(QC),Canada
E-mail: eric.granger@etsmtl.ca