

Imtiaz Masud Ziko

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RESEARCH INTEREST	Joint feature learning and clustering, few shot learning, metric learning, optimization methods, information theory in machine learning.
EDUCATION	<p>École de technologie supérieure, Montreal, Canada.</p> <p>PhD in Computer Science, May 2016 to May 2020 (Expected)</p> <p>Supervisor: Prof. Ismail Ben Ayed & Prof. Eric Granger (Co-supervisor)</p> <p>Erasmus Mundus Masters in Color in Informatics and Media Technology (CIMET)</p> <p>Norwegian University of Science and Technology (NTNU), Norway. University of Granda, Spain. Université Jean Monnet, France. Sept 2012 to Oct 2014</p> <p>ECTS Grade : B. Equivalent CGPA: 8.5/10.</p> <p>Islamic University of Technology (IUT), Gazipur, Bangladesh</p> <p>Bachelor of Science (Honors), Jan 2008 to Nov 2011 Computer Science and Information Technology CGPA 3.77/4.00.</p> <p>B.N.M. Rifles Public School and College, Dhaka, Bangladesh</p> <p>Higher Secondary Certificate (H.S.C), Science 2007 GPA 5.00/5.00.</p>
WORK EXPERIENCE	<p>PhD Candidate May 2016 to Present</p> <p>École de Technologie Supérieure- University of Quebec, Montreal, Canada.</p> <ul style="list-style-type: none">Formulate efficient joint feature learning and graph clustering method along with regularization for large scale machine learning and computer vision applications. <p>Lecturer Jan 2015 to December 2015</p> <p>Computer Science and Engineering Department, American International University-Bangladesh, Dhaka, Bangladesh.</p> <ul style="list-style-type: none">Courses: Computer Vision and Pattern Recognition, Computer Graphics, Algorithm Design, Programming Language 1 (C/C++). <p>Lecturer Oct 2014 to Jan 2015</p> <p>Computer Science and Engineering Department, Ahsanullah University of Science and Technology, Dhaka, Bangladesh.</p>

- Courses: Pattern Recognition

Research Intern

Jan 2014 to Jul 2014

Hubert Curien Laboratory,
St. Etienne, France.

- Experimentation to find out an effective visual vocabulary learning method for improving image classification technique using Bag of Words (BOW) model. We aimed at extracting the underlying subspaces on which each of the clusters resides by using suitable subspace clustering method.

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.

ACADEMIC PROJECTS

Scalable kernel clustering methods for large scale vision applications e.g. image clustering, image/motion segmentation.

École de Technologie Supérieure (ETS)

2016

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

- Survey of color constancy algorithms and built a novel multi-illuminant scene image dataset.

Waste sorting using multi-spectral imaging and machine learning methods.

ZenRobotics (Finland), University of Eastern Finland and Norwegian University of Science and Technology.

2013

- A research project of using multi-spectral imaging in order to increase the performance of waste sorting systems. By experimenting with different machine learning methods (for e.g. SVM, Random forest learning along with PCA/kernel PCA) on the multi-spectral high dimensional data, we proposed method 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.

October 2013

- Exploiting visual saliency map from the image to improve image retrieval where indexing of images is done based on similarity using region based saliency map and extracting Local Binary Pattern (LBP) features from image dataset and rank based on the similarity calculation.

Formulate an enhanced adaptive median filtering technique to remove high density salt and paper noise from digital image

Islamic University of Technology (IUT)

2011

- Enhancement to the adaptive median filtering technique has been formulated to remove very high density (as much as 90%) salt and paper noise from the image with retaining the actual image contents quite well.

SKILLS AND
INTEREST

Computer skills

- Programming: Python, C++, MATLAB.
- Deep learning libraries: Pytorch, Tensorflow.
- Experienced in using openCV, Numpy, Scipy, Opengl, OpenMP, Scikit-learn, Cuda kernel.
- Web Programming: HTML, CSS, PHP, Codeigniter framework, jQuery, MYSQL.
- Git, Inkscape, Latex.
- Hands on experience in using Spectrophotometer, Spectroradiometer, Machine vision lighting system and capturing devices.

Languages:

- Bengali (Native).
- English (Full professional proficiency).
- Spanish, French (Basic user level).

Interpersonal skills

- Sense of organization and team-work ability through working on different projects.
- Organizer – IPTA 2017 (ETS), ICT FEST 2011 (IUT).

Interests and hobbies

- Reading books, Playing guitar and Traveling.
- Playing soccer, Cricket, Badminton. Played in Inter-School Cricket and soccer Tournaments held in 2004 and 2005.

PUBLICATIONS

1. Imtiaz Masud Ziko, Eric Granger and Ismail ben Ayed. “Scalable Laplacian K-modes”. *Neural Information Processing Systems conference (NIPS)*, Montreal, Canada, December 2018. (*Spotlight*)
2. 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.
3. 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.
4. Muhammad Mizanur Rahman, Faisal Ahmed, Mohammad Imrul Jubair, Syed Ashfaqueuddin Priom and Imtiaz Masud Ziko. “An Enhanced Non-Linear Adaptive Filtering Technique for Removing High Density Salt-and-Pepper Noise.” *International Journal of Computer Applications (IJCA)*, 38(11):7–12, January 2012.
5. 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 worth 48,000 Euros 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: ACCV 2018, IPTA 2018, 2017.

REFERENCES

Ismail Ben Ayed

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