

Mohammad Mahfujur Rahman

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PERSONAL SUMMARY

I am passionate about computer vision, deep learning, machine learning, robotics, and intelligent systems especially in visual recognition with limited or weakly labeled training data. I aim to utilize deep transfer learning and domain adaptation techniques to enable visual learning.

Key skills: Deep neural networks, Generative adversarial networks, Image classification, Image segmentation, Object detection, Domain adaptation, Pytorch, Tensorflow, Caffe, Thano, Keras, OpenCV, Numpy, Python, C, C++, MATLAB

EDUCATION

Ph.D. in Computer Vision **2016 – Present**

Queensland University of Technology (QUT), Brisbane, Australia.

Thesis title: Deep Domain Adaptation and Generalization

Supervisors: Professor Clinton Fookes and Professor Sridha Sridharan

Achievement: QUT Postgraduate Research Award (QUTPRA), QUT Higher Degree Research Tuition Fee Sponsorship .

B.Sc. (Hons) in Electronics and Telecommunication Engineering (ETE) **2009 – 2013**

Daffodil International University (DIU), Dhaka, Bangladesh.

Achievement: Top CGPA in the faculty (CGPA: 3.98 out of 4.00), Gold medal in DIU convocation, Best paper award, ICRITO, IEEE, India.

PROFESSIONAL EXPERIENCE

Ph.D. Researcher **August 2016 – Present**

Queensland University of Technology (QUT), Brisbane, Australia

- Researched deep domain adaptation and generalization in the context of image classification and segmentation tasks
- Developed state-of-the-art multi-component image translation network for deep domain generalization
- Developed correlation-aware adversarial domain adaptation and generalization network for image classification

- Developed features regularization network for deep domain generalization
- Researched visual object segmentation, object classification with limited training data
- Improved deep learning methods for application to computer vision
- Awarded funding through the QUTPRA Scholarship Program
- Published and presented conference and journal papers

Sessional Academic

July 2017 – October 2017

Queensland University of Technology (QUT), Brisbane, Australia

- Tutored foundations of electrical engineering course

Lecturer

May 2014 – August 2015

Department of Electronics and Telecommunication Engineering

Faculty of Engineering, Daffodil International University, Bangladesh

- Tutored digital signal processing, computer network, electrical circuit courses
- Researched and developed new algorithms for image processing and machine learning
- Published and presented conference and journal papers
- Best paper awarded in ICRITO, IEEE, India.

System Engineer

May 2013 – May 2014

IP Telephony, MetroNet Bangladesh Limited, Dhaka, Bangladesh

- Researched and developed IP telephony system
- Developed customized IP telephony software for the vast number of users

SKILLS

Programming Languages

Python, C, C++, Java, R, MATLAB

Frameworks and Toolkits

PyTorch, TensorFlow, Theano, Keras, Caffe, OpenCV, Scikit-image, Scikit-learn, Numpy, Pandas, Seaborn.

Machine learning

- Proficient in machine learning and deep learning skills for multiple applications including computer vision, recommendation systems and natural language processing.
- Convolutional neural network (CNN), deep neural network (DNN), adversarial learning, generative adversarial network (GAN), reinforcement learning, information and image retrieval, supervised and unsupervised machine learning, image classification, image segmentation, object detection, LSTM, Capsule network, SVM, PCA, LDA

Misc.

Academic research, teaching, training, consultation, LATEX type setting and publishing.

PROFESSIONAL CERTIFICATION

Red Hat Certified System Administrator (RHCSA) October 2013
Certificate Number: 130-170-335

Red Hat Certified Engineer (RHCE) October 2013
Certificate Number: 130-170-335

AWARDS

Gold Medal 2014
Daffodil International University (DIU) Convocation, Dhaka, Bangladesh.

Best Paper Award 2015
ICRITO, IEEE, India.

QUTPRA Ph.D. Scholarship 2016 - 2019
Queensland University of Technology, Brisbane, Australia.

QUT Higher Degree Research Tuition Fee Sponsorship 2016 - 2019
Queensland University of Technology, Brisbane, Australia.

EXTRACURRICULAR ACTIVITIES

General Secretary 2016 - 2017
QUTBA, Queensland University of Technology, Brisbane, Australia

General Secretary 2014 - 2015
DIU ETE Alumni Association, Dhaka, Bangladesh.

President 2012 - 2013
DIU Nature Study Club, Dhaka, Bangladesh.

PUBLICATIONS

(1) **M. M. Rahman**, M. Baktashmotlagh, C. Fookes, and S. Sridharan, Multi-component image translation for deep domain generalization, in IEEE Winter Conference on Applications of Computer Vision (WACV), 2019.

(2) **M. M. Rahman**, C. Fookes, M. Baktashmotlagh, and S. Sridharan, On minimum discrepancy estimation for deep domain adaptation, in International Conference on Machine Learning- workshop (ICML-W), 2018.

(3) **M. M. Rahman**, C. Fookes, M. Baktashmotlagh, and S. Sridhara, Correlation-aware adversarial domain adaptation and generalization, Pattern Recognition, 2019 (Under review).

- (4) **M.M. Rahman**, C. Fookes, M. Baktashmotlagh, and S. Sridharan, Features regularization network for deep domain generalization, In International conference on computer vision (ICCV), 2019 (under review).
- (5) A. Khatun, A. K. M. F. Haque, S. Ahmed, and **M. M. Rahman**, Design and implementation of iris recognition based attendance management system, in International Conference on Electrical Engineering and Information Communication Technology (ICEEICT), 2015.
- (6) **M. M. Rahman**, A. K. M. F. Haque, M. Hasan, N. Sul-tana, and M. Z. Islam, Designing and development of voice to machine interfacing technique, in International Conference on Electrical Engineering and Information Communication Technology (ICEEICT), 2015.
- (7) A. K. M. Fazlul Haque, **M. M. Rahman**, A. Khatun, M. Younus, and J. F. Chowdhury, Voice and iris based automatic moving camera, in International Conference on Reliability, Infocom Technologies and Optimization, 2015.
- (8) A.K.M Fazlul Haque, **M.M. Rahman**, Amena Khatun, Real Time ECG Acquisition, Monitoring and Transmission for Emergency Cardiac Situation, Journal of Bangladesh Electronic Society, Vol 13, no. 1-2, July, 2013.
- (9) Md. Taslim Arefin, Md. Zahirul Islam, Md. Asaduzzaman Khan, **M.M. Rahman**, A.S.M Shaem, Wavelet Based Performance Analysis of Image Compression, International Journal on Recent and Innovation Trends in Computing and Communication, August 2014.
- (10) **M.M. Rahman** , Amena Khatun , A.K.M Fazlul Haque , Shafee- Ul-Mahmud Chowdhury, Implementation of Secured IP Telephony System, Journal of ICT, Jahangirnagar University, 2015.