Mohammad Mahfujur Rahman

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EDUCATION

Queensland University of Technology (QUT) Brisbane, Australia
Ph.D., Computer Science 08/2016 – 10/2019 (tentative)

- Research area: computer vision, machine learning, deep learning, domain adaptation and generalization, transfer learning, image and video segmentation, object detection and classification.
- Dissertation: "Deep Domain Adaptation and Generalization"
- Advisors: Professor Clinton Fookes, and Professor Sridha Sridharan
- Achievement: QUT Postgraduate Research Award (QUTPRA), QUT Higher Degree Research Tuition Fee Sponsorship.

Daffodil International University (DIU) Dhaka, Bangladesh
B.Sc. (Hons) in Electronics and Telecommunication Engineering (ETE) 05/2009 – 05/2013

- 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

Queensland University of Technology (QUT) Brisbane, Australia
Ph.D. Researcher, Computer Science 08/2016 – Present

- Investigated and developed unsupervised deep domain adaptation network, in the tasks of object classification. Specific designs include reducing domain disparity between source (training) and target (test) data.
  Tools: C++, Caffe
- Explored and developed multi-component image translation network, and evaluated its discriminative efficiency in the object classification task at limited number of training data.
  Tools: Python, C++, PyTorch, Caffe, Matplotlib
- Investigated and implemented correlation-aware adversarial domain adaptation and generalization network, in the tasks of image and object classification where the discrepancy between the source and target data is minimized through adversarial learning and correlation alignment.
  Tools: C++, Caffe
- Developed features regularization network where I tackled the problem of training with multiple source domains with the aim to generalize to new domains at test time without an adaptation step.
  Tools: Python, PyTorch, Matplotlib
- Investigated and developed an end-to-end semantic consistent generative adversarial network (GAN) for unsupervised domain adaptation, in the tasks of image and object classification.
  Tools: Python, PyTorch, Matplotlib

Queensland University of Technology (QUT) Brisbane, Australia
Sessional Academic 07/2017 – 10/2017

- Foundations of Electrical Engineering

Daffodil International University (DIU) Dhaka, Bangladesh
Lecturer 05/2014 – 10/2015

- Tutored digital signal processing, computer network, electrical circuit.
- Researched and developed new algorithms for image processing and machine learning.
  Tools: Python, Matlab, Matplotlib, Caffe

MetroNet Bangladesh Limited Dhaka, Bangladesh
System Engineer, IP Telephony 05/2013 – 05/2014

- Researched and developed IP telephony system.
- Developed customized IP telephony software for the vast number of users.
  Tools: Python, Asterisk

SKILLS

Transferable skills:

- Leadership, Goal Oriented, Critical Thinking, Adaptability, Problem Solving, Work Ethic.
- Excellent communication and teamwork skills.

Research skills:

- Proficient knowledge of modern computer vision and deep learning techniques such as convolutional and recurrent neural networks, machine learning, pattern recognition, statistical learning, generative adversarial network, adversarial learning, reinforcement learning, long short-term memory, augmented reality (object detection, semantic segmentation, pose estimation, image classification).
- Programming languages: C, C++, Python, R, MATLAB.
- Deep learning frameworks: PyTorch, TensorFlow, Keras, Caffe, OpenCV
- Scikit-image, Scikit learn, Numpy, Pandas, Seaborn, Android Studio, Core ML, ARKit, ARCore.

Engineering and management skills:

- Planning, organising, directing, controlling and coordinating the engineering and technical operations of an organisation.
- Strong written and verbal communication skills.
- Developing client relationships: teaching, persuasion and negotiation in a technical context.

PROFESSIONAL CERTIFICATION

- Red Hat Certified System Administrator (RHCSA) 10/2013
  Certificate Number: 130-170-335
- Red Hat Certified Engineer (RHCE) 10/2013
  Certificate Number: 130-170-335

EXTRACURRICULAR ACTIVITIES

- QUTBA, Queensland University of Technology — Brisbane, Australia
  General Secretary — 2016 - 2017
- DIU ETE Alumni Association — Dhaka, Bangladesh
  General Secretary — 2014 - 2015
- DIU Nature Study Club — Dhaka, Bangladesh
  President — 2012 - 2013

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 (PR), 2019 (Under review).

(4) **M.M. Rahman**, C. Fookes, M. Baktashmotlagh, and S. Sridharan, Features regularization network for deep domain generalization, In the Association for the Advancement of Artificial Intelligence (AAAI), 2020 (Submitted).

(5) **M.M.Rahman**, C.Fookes, and S.Sridharan, Semantic Consistent Generative Adversarial Network for Unsupervised Domain Adaptation, In the Association for the Advancement of Artificial Intelligence (AAAI), 2020 (Submitted).

(6) 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.

(7) **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.

(8) A. K. M. Fazlul Haque, **M. M. Rahman**, A. Khatun, M. Younus, and J. F. Chowdhury, Voice and irish based automatic moving camera, in International Conference on Reliability, Infocom Technologies and Optimization, 2015.

(9) 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.

(10) 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.

(11) **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.

REFERENCES

Professor Clinton Fookes
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Professor Sridha Sridharan
Artificial intelligence and Image Processing
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