AVIJIT MITRA

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EDUCATION

PhD in Computer Sciences Sep 2019 - Present
University of Massachusetts Amherst (UMass Amherst), MA, USA
CGPA: 3.87/4.00 (16 credits)

Master of Science in Electrical and Electronic Engineering Jan 2021
Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh
CGPA: 3.75/4.00

Bachelor of Science in Electrical and Electronic Engineering Feb 2017
Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh
CGPA: 3.78/4.00

WORK EXPERIENCE

Graduate Research Assistant, BioNLP Lab, UMass AMherst, MA, USA Jan 2020 - Present

- Advisor: Professor Hong Yu
- Area of Study: Natural Language Processing, Bioinformatics, Machine Leraning

Machine Learning Researcher, Semion Ltd., Dhaka, Bangladesh Mar 2017 - Feb 2019

- Providing Deep Learning solutions to clients
- Reproducing state of the art results from the literatures and applying them on proprietary datasets
- Design and development of necessary software infrastructures

Intern, Semion Ltd., Dhaka, Bangladesh Aug 2016 - Dec 2016

SELECTED PUBLICATIONS (gl)

[1] **A. Mitra**, B. P. S. Rawat, D. McManus, H. Yu. "Relation Classification for Bleeding Events from Electronic Health Records: Exploration of Deep Learning Systems", submitted to JMIR (under review), 2021
[2] **A. Mitra**, B. P. S. Rawat, D. McManus, A. Kapoor, H. Yu. "Bleeding Entity Recognition in Electronic Health Records: A Comprehensive Analysis of End-to-End Systems", accepted at *AMIA Annual Symposium*, 2020
[3] **A. Mitra**, K. Ashraf. "Sepsis Prediction and Vital Signs Ranking in Intensive Care Unit Patients", *arXiv preprint arXiv:1812.06686*, 2018
[4] R. Ahsan, **A. Mitra**, S. Omar, M. Z. R. Khan, M. A. Basith. "Sol−gel synthesis of $DyCrO_3$ and 10% Fe-doped $DyCrO_3$ nanoparticles with enhanced photocatalytic hydrogen production abilities", *RSC Advances*, 2018

RELEVANT PROJECTS

- **Transferability of the winning tickets** in CV and NLP (Python, PyTorch) 2020
- **Evaluation of triplet fingerprinting** attack for website fingerprinting (Python, Keras) 2020
- **Offensive language identification** across multiple social media platforms (Python, PyTorch) 2020
- **SemRad**, a teleradiology solution (Java, JavaFX, SQLite, MySQL) 2018
- **Faulty semiconductor wafer detection** from machine logs (Python, Tensorflow) 2018
- **Finding hotspots** in semiconductor wafer logs using LRP algorithm (C++, Python) 2018
- **Detection of Arrhythmia** based on discrete wavelet transform (DWT) features (Python, Keras) 2018
- **HealthGeek**, an Android app and **Differential Diagnoses**, an Amazon Alexa skill (Java, Node.js, Flask) 2017
- **Risk factors detection** for heart diseases in diabetic patients (Python, Theano) 2017

SKILLS

Programming Languages: Python, Java, MATLAB, R, C, C++
Machine Learning Frameworks: Pytorch, Tensorflow, Keras, Scikit-learn
Other Expertise: Weka, Arduino, LaTeX, Git, Microsoft Office

ACHIEVEMENTS

449^{th} among 2172 teams (Top 21%), Human Protein Atlas Image Classification, Kaggle 2019
355^{th} among 3234 teams (Top 11%), TGS Salt Identification challenge, Kaggle 2018
12^{th} among 57 teams (Top 21%), Bengali Handwritten Digit Recognition, Kaggle 2018
Dean's List Award 2013, 2017
2^{nd} Runner up, Inter University Project Show, BUET 2015

TEACHING EXPERIENCE

Fall 2020	Guest Lecturer, COMP.5800: Topics in Computer Science, UMass Lowell
Fall 2019	Teaching Assistant, COMPSCI 121: Introduction to Computing