AVIJIT MITRA

(347) 592-9845
avijitmitra@umass.edu
avipartho.github.io

EDUCATION

PhD in Computer Sciences September 2019 - Present
University of Massachusetts Amherst (UMass Amherst), MA, USA
Advisor: Professor Hong Yu
Research Focus: NLP in clinical domain, biomedical informatics

Bachelor of Science in Electrical and Electronic Engineering April 2012 - February 2017
Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh
CGPA: 3.78/4.00, 157.5 credits

WORK EXPERIENCE

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

- Advisor: Professor Hong Yu
- Joint entity detection and relation extraction from unstructured EHR notes

Machine Learning Researcher, Semion Ltd., Dhaka, Bangladesh March,2017 - February,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, Android app and Alexa skill

Intern, Semion Ltd., Dhaka, Bangladesh August,2016 - December,2016

RESEARCH ARTICLES (R[G])

[1] **A. Mitra**, B. P. Singh, D. 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
[2] **A. Mitra**, K. Ashraf. "Sepsis Prediction and Vital Signs Ranking in Intensive Care Unit Patients", *arXiv preprint arXiv:1812.06686*, 2018
[3] 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
[4] **A. Mitra**, T. Mostafiz, R. Ur Rashid. "Photoplay: An Android Application to Stimulate Children's Cognitive Development", *IEEE Region 10 Humanitarian Technology Conference (R10-HTC)*, 2017

SELECTED RELEVANT PROJECTS

- **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, C, C++, MATLAB, R
Machine Learning Frameworks: Pytorch, Tensorflow, Keras, Scikit-learn, Theano
IDEs: Android studio, Visual Studio, PyCharm, IntelliJ IDEA, Brackets, Arduino
Other Expertise: Weka, Latex, Git, Microsoft Office
Os: Linux, Windows

ACADEMIC HONORS

Dean's List Award	Awarded for attaining CGPA greater than 3.75
Board Scholarships	At Primary, Junior, Secondary and Higher secondary Levels
Admission Test Scholarship	For securing 83^{rd} position among 9000 applicants in BUET admission

TEACHING EXPERIENCE

Fall 2019	Teaching Assistant, COMPSCI 121: Introduction to Computing

OTHER ACTIVITIES

449th among 2172 teams (Top 21%), Human Protein Atlas Image Classification, Kaggle 2019
355th among 3234 teams (Top 11%), TGS Salt Identification challenge, Kaggle 2018
12th among 57 teams (Top 21%), Bengali Handwritten Digit Recognition, Kaggle 2018
2nd Runner up, Inter University Project Show, BUET 2015
1st Runner up, Inter School & College Science Festival, Rajuk College, Dhaka 2010