








EDUCATION

PhD in Computer Sciences University of Massachusetts Amherst (UMass Amherst), MA, USA	Sep 2019 - Present
Master of Science in Electrical and Electronic Engineering Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh	Jan 2021
Bachelor of Science in Electrical and Electronic Engineering Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh	Feb 2017

WORK EXPERIENCE

Graduate Research Assistant , BioNLP Lab, UMass Amherst, MA, USA	Jan 2020 - Present
<ul style="list-style-type: none"> • Advisor: Professor Hong Yu • Area of Study: Natural Language Processing, Bioinformatics, Machine Learning 	
Applied Scientist Intern , Amazon Alexa AI, WA, USA	May 2021 - Sept 2021
<ul style="list-style-type: none"> • Worked with the context carryover (CC) team • Developed synthetic utterance similarity detection dataset and assessed its feasibility 	
Applied Scientist Intern , Amazon Alexa AI, WA, USA	Jun 2021 - Aug 2021
<ul style="list-style-type: none"> • Worked with the context carryover (CC) team • Developed tasks to minimize model hallucination for constrained contextual query rewriting (CQR) 	
Machine Learning Researcher , Semion Ltd., Dhaka, Bangladesh	Mar 2017 - Feb 2019
<ul style="list-style-type: none"> • Provided Deep Learning solutions to clients • Designed and developed necessary software infrastructures 	
Intern , Semion Ltd., Dhaka, Bangladesh	Aug 2016 - Dec 2016

SELECTED PUBLICATIONS

1. A. J. Rose, J. S. Lee, D. R. Berlowitz, W. Liu, **A. Mitra**, H. Yu, "Guideline-discordant dosing of direct-acting oral anticoagulants in the veterans health administration", BMC Health Services Research, 2021 
2. **A. Mitra**, H. Ahsan, W. Li, W. Liu, R. D. Kerns, J. Tsai, W. Becker, D. A. Smelson, H. Yu, "Risk Factors Associated With Nonfatal Opioid Overdose Leading to Intensive Care Unit Admission: A Cross-sectional Study", JMIR Medical Informatics, 2021 
3. H. Ahsan, E. Ohnuki, **A. Mitra**, H. Yu, "MIMIC-SBDH: A Dataset for Social and Behavioral Determinants of Health", Machine Learning for Healthcare, 2021 
4. **A. Mitra**, B. P. S. Rawat, D. McManus, H. Yu. "Relation Classification for Bleeding Events from Electronic Health Records: Exploration of Deep Learning Systems", JMIR Medical Informatics, 2021 
5. **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 
6. **A. Mitra**, K. Ashraf. "Sepsis Prediction and Vital Signs Ranking in Intensive Care Unit Patients", *arXiv preprint arXiv:1812.06686*, 2018 
7. R. Ahsan, **A. Mitra**, S. Omar, M. Z. R. Khan, M. A. Basith. "Sol-gel synthesis of DyCrO₃ and 10% Fe-doped DyCrO₃ 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, L^AT_EX, 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

SERVICES

- Reviewer of npj Mental Health Research
- Reviewer of BMC Pulmonary Medicine
- Reviewer of Frontiers in Bioengineering and Biotechnology
- Reviewer of JMIR Medical Informatics