Md Tahsin Mostafiz

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Researchgate

Research Interests

Machine Learning, Deep Learning, Computer Vision, Natural Language Processing

Education

Graduate Student, *Electrical and Computer Engineering* — *Jan 2021-*
University of Florida, Gainesville, USA

Master of Science, *Electrical and Electronic Engineering* — *June 2019-December 2020*
Bangladesh University of Engineering and Technology (BUET)

Bachelor of Science, *Electrical and Electronic Engineering* — *Feb 2017*
Bangladesh University of Engineering and Technology (BUET)

Honors and Awards

Competition expert in Kaggle 2020

Discussion expert in Kaggle 2020

Second Runner-up, Inter-University Project Show 2015, IEEE BUET Student Branch 2015

Divisional Champion, 1^{st} Runner-up, 2^{nd} Runner-up, Bangladesh Mathematical Olympiad 2006-2008

Work Experience

Machine Learning Engineer, AI Samurai Japan Limited**, Dhaka, Bangladesh** Dec 2019- Dec 2020

Research Assistant, mHealth Laboratory**, BME Department, BUET** Oct. 2019- December 2019

Professional Member, Humanitarian Activity Committee, IEEE Bangladesh Section June 2019-

Machine Learning Researcher, Semion Limited**, Dhaka, Bangladesh** March 2017- May 2019

Intern, Semion Limited**, Dhaka, Bangladesh** August 2016- March 2017

Writer and Editor, Zero2Infinty, A Monthly Science Magazine June 2013- August 2015

Research Articles

- "EVHA: Explainable Vision System for Hardware Testing and Assurance - An Overview" MD Mahfuz Al Hasan, **Tahsin Mostafiz**, Thomas An Le, Jake Julia, Nidish Vashistha, Shayan Teheri, and Navid Asadizanjani, Submitted at ACM JETC preprint
- "A Web-based Assistive Tool for Emergency Physicians in Diagnosing Intracranial Hemorrhage Subtypes from 2D Brain CT Images" **Tahsin Mostafiz**, Rifat Jahan Azad, Nawsabah Noor, Shajib Ghosh, Haris Sair, Paul Nagy, Taufiq Hasan, Society for Imaging Informatics in Medicine (SIIM) 2020 Annual Meeting, June 2020, Austin, Texas, USA (abstract)
- "Pathology Extraction from Chest X-Ray Radiological Reports: A Performance Comparison" **Tahsin Mostafiz**, Dr. Khalid Ashraf
- "Retinal Blood Vessel Segmentation using Residual Block Incorporated U-Net Architecture and Fuzzy Inference System" **Tahsin Mostafiz**, Ismat Jarin, Dr. Shaikh A. Fattah and Dr. Celia Shahnaz; *IEEE WIECON-ECE 2018.*

Technical Skills

Programming Languages: C, C++, MATLAB, JAVA, Python

Python Frameworks: OpenCV, BeautifulSoup, Pandas, Numpy

Machine Learning Frameworks: Scikit-Learn, Tensorflow, Keras, PyTorch, Pytorch-Lightning, Fast.ai

Integrated Development Environment : PyCharm, Android Studio, IntelliJ IDEA, Visual Studio, Arduino

Professional Projects

- Co-development of semi-supervised CNN model for abnormality detection in sweet images.
- Backend deep learning algorithm development of **RadAssist**, a web application for the detection and localization of *Intracranial Hemorrhage* from brain CT images.
- **SemRad**, a Teleradiology Solution: Development of An Inference Tool and a Class Activation Mapping (CAM) Tool Using *ResNet101* for Detection and Localization of Abnormalities in Chest X-ray Images for this software.
- **semDDX**, *an Android app*: This Android app was designed to help the users navigate the vast landscape of differential diagnoses and help medical students to learn DD easily.
- **Risk Factors Detection**: Identification of Risk Factors for Heart Disease from *i2b2* dataset Using a Bidirectional LSTM network with 50 Dimensional Glove Word Embedding.
- **Differential Diagnoses**, *an Amazon Alexa skill*: This Alexa skill was designed to help the users find all differential diagnoses for a symptom.
- **Symptom Checker**, *an Amazon Alexa skill*: This skill was designed to help the users detect disease from symptoms.

Student Supervising Experience

- Mentored an undergraduate student in his thesis work titled *"COVID Infection Analysis via Lung Lobe Segmentation using Deep Learning"*.
- Supervising two students entering their senior years to get familiar with research work in hardware security and machine learning.

Relevant Courses

- Fundamentals of Machine Learning
- Pattern Recognition
- Image Processing and Computer Vision
- Linear Algebra
- Probability and Statistics