Md.Tahsin Mostafiz

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Researchgate

Research Interests

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

Education

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

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
5th position, Web Design Contest 2015, BUET 2015
Divisional Champion, 1st Runner-up, 2nd Runner-up, Bangladesh Mathematical Olympiad 2006-2008

Work Experience

Graduate Research Assistant, FICS Lab**, University of Florida** Jan 2021
Machine Learning Engineer, AI Samurai Japan Limited**, Dhaka** 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
Member, IEEE BUET Student Branch June 2015- Feb 2017

Research Articles

- "Pathology Extraction from Chest X-Ray Radiological Reports: A Performance Comparison" **Tahsin Mostafiz**, Dr. Khalid Ashraf *arXiv 1812.02305*
- "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*.
- "Photoplay: An Android Application to Stimulate Children's Cognitive Development" Avijit Mitra, **Tahsin Mostafiz**, Raihan Ur Rashid; Humanitarian Technology Conference (R10-HTC), 2017 IEEE Region 10, Dhaka.

Technical Skills

Programming Languages: C, C++, MATLAB, JAVA, Assembly, LaTeX, Python
Python Frameworks: OpenCV, BeautifulSoup, Pandas, Numpy
Machine Learning Frameworks: Scikit-Learn, Tensorflow, Keras, PyTorch, Fast.ai
Hardware Design Tool: MATLAB, Proteus, Quartus, PSpice
Integrated Development Environment : PyCharm, Android Studio, IntelliJ IDEA, Visual Studio, Arduino
Hardware: Arduino, Raspberry Pi, AVR Microcontrollers

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.

Other Projects

- Mentored an undergraduate student in his thesis work titled *"COVID Infection Analysis via Lung Lobe Segmentation using Deep Learning"*.
- Implementation of A Deep Domain Adaptation Method for *2018 Visual Domain Adaptation (VisDA) Challenge.*