# Md.Tahsin Mostafiz

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Google Scholar • R<sup>G</sup> 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

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| **Competition expert in** Kaggle | 2020 |
| **Discussion expert in** Kaggle | 2020 |
| **Second Runner-up,** Inter-University Project Show 2015, IEEE BUET Student Branch | 2015 |
| **5$^{th}$ position,** Web Design Contest 2015, BUET | 2015 |
| **Divisional Champion, 1$^{st}$ Runner-up, 2$^{nd}$ Runner-up,** Bangladesh Mathematical Olympiad | 2006-2008 |

## Work Experience

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| **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

o "Pathology Extraction from Chest X-Ray Radiological Reports: A Performance Comparison" **Tahsin Mostafiz**, Dr. Khalid Ashraf *arXiv 1812.02305*

o "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.*

o "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*.