

Eftekhar Hossain

LECTURER

DEPARTMENT OF ELECTRONICS AND TELECOMMUNICATION ENGINEERING

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Research Interest

Deep Learning, Natural Language Processing, Computer Vision, and Data Science.

Education

Chittagong University of Engineering and Technology

Chittagong, Bangladesh

BACHELOR OF SCIENCE IN ELECTRONICS & TELECOMMUNICATION ENGINEERING, CGPA: 3.88/4.0

2014-2018

Experience

Chittagong University of Engineering and Technology

Chittagong, Bangladesh

LECTURER, ELECTRONICS & TELECOMMUNICATION ENGINEERING

July 2019 - Present

Premier University

Chittagong, Bangladesh

LECTURER, ELECTRICAL & ELECTRONIC ENGINEERING

October 2018 - June 2019

Technical Skills

Languages	C, Python, Matlab, C++
Machine Learning	Scikit-Learn, Tensorflow, Keras, PyTorch, Trax
Data Science	Pandas, Seaborn, Numpy
Web Scraping	Beautiful Soup, Requests, lxml
Web Development	Flask, Bootstrap, PHP, MySQL
Electronics	Proteus, Micro-controller, Mickro C, PicKit
IDE & Tools	Jupyter, Spyder, Latex, Hugo

Publications

1. **Eftekhar Hossain**, Omar Sharif, Mohammed Moshiul Hoque, “*Sentiment Polarity Detection on Bengali Book Reviews Using Multinomial Naive Bayes*”, In Proceedings of 5th International Conference on Advanced Computing and Intelligent Engineering (**ICACIE 2020, Springer**), Mauritius.
2. Omar Sharif, Mohammed Moshiul Hoque, **Eftekhar Hossain**, “*Sentiment Analysis of Bengali Texts on Online Restaurant Reviews Using Multinomial Naïve Bayes*”, In Proceedings of International Conference on Advances in Science, Engineering and Robotics Technology (**ICASERT 2019, IEEE**), pp. 1-6, Bangladesh.
3. **Eftekhar Hossain**, Md. Farhad Hossain, Mohammad Anisur Rahaman, “*A color and texture based approach for the detection and classification of plant leaf disease using KNN classifier*”, In Proceedings of International Conference on Electrical, Computer and Communication Engineering (**ECCE 2019, IEEE**), pp. 1-6, Bangladesh.
4. **Eftekhar Hossain**, Md. Farhad Hossain, Mohammad Anisur Rahaman, “*An approach for the detection and classification of tumor cells from bone MRI using wavelet transform and KNN classifier*”, In Proceedings of International Conference on Innovation in Engineering and Technology (**ICIET 2018, IEEE**), pp. 1-6, Bangladesh.

5. **Eftekhar Hossain**, Mohammad Anisur Rahaman, “*Detection & classification of tumor cells from bone mr imagery using connected component analysis & neural network*”, In Proceedings of International Conference on Advancement in Electrical and Electronic Engineering (**ICAEEE 2018, IEEE**), pp. 1-4, Bangladesh.
6. **Eftekhar Hossain**, Mohammad Anisur Rahaman, “*Comparative Evaluation of Segmentation Algorithms for Tumor Cells Detection from Bone MR Scan Imagery*”, In Proceedings of International Conference on Innovations in Science, Engineering and Technology (**ICSET 2018, IEEE**), pp. 361-366, Bangladesh.
7. **Eftekhar Hossain**, Mohammad Anisur Rahaman, “*Bone Cancer Detection & Classification Using Fuzzy Clustering & Neuro Fuzzy Classifier*”, In Proceedings of 4th International Conference on Electrical Engineering and Information & Communication Technology (**ICEEICT 2018, IEEE**), pp. 541-546, Bangladesh.
8. **Eftekhar Hossain**, Nursadul Mamun, Md. Fahim Faisal “*Vehicle to Vehicle Communication Using RF and IR Technology*”, In Proceedings of 2nd International Conference on Electrical & Electronic Engineering (**ICEEE 2017, IEEE**), pp. 1-5, Bangladesh.

Projects

Bone Cancer Detection and Classification Using Neural Network and Neuro Fuzzy Classifier

FINAL YEAR THESIS PROJECT

- My goal was to detect Bone Cancer from Bone MR images using Connected Component Labeling algorithm and then classify the tumor type using Neural Network and Neuro Fuzzy Classifier.
- *Skills Used: MATLAB, Image Processing, Machine Learning*

An Online Based Semester Registration System

3RD YEAR WEB DEVELOPMENT SINGLE PROJECT

- Developed a website where student can complete their semester registration without going to the Bank. Only Student, Advisor, Hall Provost and Admin have the access of the website.
- *Skills Used: HTML, CSS, SQL, PHP, Xampp*

Heart Beat Rate Monitoring System

3RD YEAR ELECTRONIC SYSTEM DESIGN SINGLE PROJECT

- Developed a heart beat sensor that can determine the heart rate of a person from his/her finger tip. Photoplethysmography (PPG) technique employed to read the signals and then heart rate calculation is done by using a micro controller.
- *Skills Used: Proteus, MikroC, PickIt*

News Headlines Categorization Using Deep Learning

A NATURAL LANGUAGE PROCESSING PROJECT

- Created a tool that can categorize the Bengali news headlines into six categories using gated recurrent network. To develop this system 100k news headlines were scraped from various online news portals using a custom web scraper.
- *Skills Used: Web Scrapping, Tensorflow, Pandas, Seaborn*

Certifications

Deep Learning Specialization

Coursera

DEEP LEARNING.AI

September 2019

- Get a profound knowledge about the major technology trends driving deep learning and learn about popular deep learning architectures such as CNN, RNNs, LSTM, YOLO, siamese network with various hyper-parameter optimization tricks including Adam, Dropout, BatchNorm, Xavier/He initialization and other.
- Implement different case studies on visual detection and recognition tasks, sign language reading, music generation, neural style transfer and machine translation from scratch using python and TensorFlow.

DeepLearning.AI TensorFlow Developer Specialization

Coursera

DEEP LEARNING.AI

October 2019

- Learn a popular open-source machine learning framework to build and train neural networks using TensorFlow. Also learn how to improve network's performance using convolutions and transfer learning to solve real world problems.
- Learn various NLP tasks such as how to process text, including tokenizing and representing sentences as vectors and also learn how to apply RNNs, GRUs, and LSTMs in TensorFlow. Finally, implement some interesting case studies such as sentiment analysis, poetry generation, stock price prediction, and sunspot activity prediction using TensorFlow.

TensorFlow: Data and Deployment Specialization

Coursera

DEEP LEARNING.AI

April 2020

- Learn how to run and deploy machine learning models in browsers as well as in mobile devices. Also learn about data pipelines with TensorFlow data services, how to use APIs to control data splitting, process all types of unstructured data and so on.
- Apply my knowledge in various deployment scenarios and get introduced with TensorFlow Serving, TensorFlow Hub, TensorBoard, and more.

IBM AI Engineering Professional Certificate

Coursera

IBM

April 2020

- Get an in depth understanding about the concepts of data analysis, machine learning and deep learning, including supervised and unsupervised learning.
- Learn how to use popular machine learning and deep learning libraries such as SciPy, ScikitLearn, Keras, and PyTorch to solve industry problems involving object recognition, computer vision, image and video processing, text analytics, natural language processing (NLP), and recommender systems.

Natural Language Processing

Udacity

NANODEGREE

June 2020

- Learn cutting-edge natural language processing techniques to process speech and analyze text and also learn the most used embedding algorithms, such as Word2Vec and Glove.
- Get a hands on practice by building probabilistic and deep learning models for NLP tasks, such as hidden Markov models, recurrent neural networks and attention models to teach the computer to do tasks such as parts of speech tagging, speech recognition, machine translation, and more.

Achievements

- **CUET Ex-Students Merit Award** (2016): For obtaining highest CGPA in an academic year.
- **1st Prize** (among 10 teams): Project Show competition, ETE Day, 2016.
- **Best Project Award** (2016): For doing best web development project.
- **Government Scholarship** (2014-2018): For obtaining outstanding GPA in the Higher Secondary Exam in a region.

Extra-Curricular Activities

- Joint Technical Secretary(2017-2018), Robo Mechatronics Association(RMA), CUET.
- Organized CUET ETE Day 2018, 2020.
- Organized Telemesh 2020.
- Runner-up of Intra Hall Badminton Tournament 2016.