ASFIA KAWNINE

Graduate Research Assistant

University of New Brunswick

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Education

2023 – Ongoing Master of Science in Computer Science
University of New Brunswick

2015 – 2019 Bachelor of Science in Computer Science & Engineering
International Islamic University Chittagong
CGPA 3. 714 out of 4.00

Paper Publication

December 2021 An approach to access Air Quality using Deep Learning and BRB
(Undergraduate Thesis) – Awarded as Best Presentation
Accepted at The 2021 Asia Digital Image Processing Conference (ADIP-2021)

- My thesis research was on air quality prediction using Convolutional Neural Network (CNN) as a deep learning method,
- Convolutional layers and pooling layers were used, and to determine multiclass feature had used softmax function.
- Belief Rule based Expert System (BRBES) was used to handle uncertainties.

Research Experience & Projects

Federated Learning (Ongoing) This research includes edge devices, embedded learning, streaming analytics and is being conducted in Analytics Everywhere Lab, University of New Brunswick.

Computer Vision I have done multiple computer vision projects on Convolutional Neural Network (CNN). Below is given some projects on image recognition, classification-

- Traffic sign recognition
- Using Logistic Regression in Neural Network for classification
- Deep Neural Network for Image Classification
- Planar data classification with one hidden layer

Smartphone Controlled Object Detector

This project was to detect any obstacle while moving in different directions.

- We had used Arduino Uno for this.
- Our detector was controlled via mobile app to move in different directions.
- We had used ultrasonic sensor to determine the distance if any object was in the way of movements.
- If any object was detected within the defined distance the detector would buzz.

Career History

January 2023 – Present

Graduate Research Assistant

Analytics Everywhere Lab, University of New Brunswick

Responsibilities:
Conducting research on various machine learning models and framework, test them on different edge devices and innovate new approach.

July 2022 – November 2022

Data Scientist

Be Data Solutions

Responsibilities:
Data Structuring, Data Engineering and Data Analysis

December 2019 – July 2022

Software Engineer | AI – Digital Innovation team

LEADS Corporation Limited

Responsibilities:
* Developed products based on image processing and natural language processing
    - Worked on dataset, intent classification, custom features
* Researched and developed on AI in health care
* Developed security products using computer vision techniques
    - Worked on dataset, and verification engine
* Developed AI based recruitment system
    - Worked on emotion analysis, voice engine, candidate scoring engine, Django framework.

Skills & Activities

Tools PyCharm, Google Colab, VS code, Visual Studio, Jupyter Notebook, Spyder

Languages Python, C, C++, C#

Platforms TensorFlow, Anaconda

Framework Django, ASP.Net

Database	SQLite, MySQL Workbench
Source Control	DevOps, GitHub

Industrial Training

August– September 2021

Training on AI Services

By PUM Netherlands senior experts and Basis

While the training, not only my understanding of machine learning strengthened but also I acquired knowledge of business perspective and development. Successfully developed an image processing based project by considering the business aspects and benefits.

June – September 2020

Specialist Training Programme on Artificial Intelligence

By National University of Singapore and LICT

The training enhanced my knowledge about different machine learning techniques and their use in development. Also was a great guide while developing the project, titled as:

- RecruitGenie, AI Powered Virtual Interview Assistant

March – June 2018

Web Application Dev-Dot Net

At BASIS Institution of Technology & Management (BITM)

During the training, I learnt C# programming language, ASP.Net web framework and MVC framework. I successfully completed two projects during the training period, titled as:

- University Course and Management System
- Stock Management System

Accomplishments

December 17-19, 2021

Best Presenter Award

For the paper titled - “An approach to access Air Quality using Deep Learning and BRB”

The 2021 Asia Digital Image Processing Conference

January 20, 2017

Best Female Programmer (Junior)

IIUC Intra-University Programming Contest (Autumn 2016)

Computer Club – International Islamic University Chittagong

November 13-14, 2017

IIUC IEEE Spectra-2017

Programming Contest

IEEE IIUC Student Branch and Women in Engineering (WIE) Affinity Group

September 6-7, 2018 *Power and Energy Hackathon-2018*

Ministry of Power, Energy and Mineral Resources

- We had developed an interface to monitor electricity consumption.
- The consumption could also be monitored while being away from that particular place.
- Sensor was used to measure usage, and the data was sent via web api.
- And ASP.net to make the user interface.
- Usage alert and quick recharge options were also provided in the system.

September 2017 *Elements of AI*

University of Helsinki and Reaktor

An online course which combines theory and practical exercises to learn about AI, how it works and different methods of AI.

May 2019 *Deep Learning Specialization*

Coursera by Andrew Ng

This specialization taught me about the development of cutting-edge AI technology, and to understand the capability, the challenges, and the consequences of the rise of deep learning. The specialization contains the following five courses, which I have completed.

- Neural Networks and Deep Learning
- Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization
- Structuring Machine Learning Projects
- Convolutional Neural Network
- Sequence Models

June 2019 *Deep Learning.AI TensorFlow Developer Professional Certificate*

Coursera by Laurence Moroney

This specialization helped me learning the necessary tools to build scalable AI-powered applications with TensorFlow. I have completed the followings of this specialization-

- Introduction to TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning
- Convolutional Neural Network in TensorFlow

April 2020 *TensorFlow: Data and Deployment Specialization*

Coursera by Laurence Moroney

- Browser-based Models with TensorFlow.js

This course helped me learning to train and run machine learning models in any browser using TensorFlow.js. I've learned techniques for handling data in the browser, and at the end I've built a computer vision project that recognizes and classifies objects from a webcam.

Leadership Skill and Experience

April 2016- April 2019 Seminar Secretary
IIUC Computer Club
Faculty of Computer Science & Engineering
International Islamic University Chittagong, Bangladesh

Language Skills

ENGLISH (International English Language Testing System, IELTS)	UNDERSTANDING		SPEAKING	WRITING
	Listening	Reading		
	7.5	6.5	7.0	6.0