Md. Tawheedul Islam Bhuian

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Education

Bangladesh University of Engineering & Technology — Dhaka, Bangladesh
B.Sc. in Electrical and Electronics Engineering; ***CGPA: 3.16/4.00*** — *Mar 2017 – May 2022*
Final Year ***GPA: 3.50/4.00*** — *Oct 2020 – May 2022*

Fauzderhat Cadet College — Chattogram, Bangladesh
Higher Secondary School ; ***GPA: 5.00/5.00*** — *July 2014 – August 2016*

Work Experience

Moonfrog Labs — Dhaka, Bangladesh
Data Scientist — *Oct 2020 – Current*

- Embedded in a game studio, work and communicate with a cross-functional team of product managers, producers, designers, QA analysts, engineers and artists on day-to-day operations.
- Developed and scheduled reporting metrics for monitoring growth, economy, revenue, user acquisitions and more.
- Created end-to-end analytics ETL pipeline for creating a data repository for marketing & analysis.
- Setup & standardized user acquisition managers' campaign analytics and dashboarding processes.
- Engaged in full lifecycle of experiment manager setup, monitoring and final readouts.
- Creating drafts and product roadmaps for new feature releases, experiments, and campaign launches.
- Worked on to develop sentiment analysis model from app store reviews for the games.
- Collaborated to develop a machine learning model to predict potential payers.

Center for Research, Innovation and Development Action — Dhaka, Bangladesh
Data Science Intern — *April 2020 – Aug 2020*

- Participated in a Kaggle competition and collaborated in developing a deep learning model to predict chemical identifier text from chemical images. My team finished within top 13 percent amongst 874 teams participated.
- Presented a talk on computer vision algorithms and current research scopes in this domain in a knowledge transfer session among the interns

Research Experience

Undergraduate Thesis
Researcher — *Oct 2020 – May 2022*

- Worked with Dr. Forkan Uddin on a project to monitor disaggregated energy consumption pattern across appliances in households with supervised machine learning.
- Collected, merged & preprocessed public datasets to develop a model architecture comprising of a LSTM based classification and regression sub-network to minimise error for non-intrusive load monitoring.

Research Publications

R U Murshed, S. K. Druba, T. I. Bhuian, Rumi A. "Automated Level Crossing System: A Computer Vision Based Approach with Raspberry Pi Microcontroller". ICECE (2022)

Research Interests

Machine Learning, Computer vision, Signal Processing, IoT, Robotics

Skills

Programming: C/C++, Python, MATLAB, SQL, Verilog, 8055 Assembly

Frameworks: Keras, PyTorch, Tensorflow, OpenCV

Developer Tools: Git, Arduino, Raspberry Pi, Unity, Looker, AWS Redshift, Google BigQuery, Apache Spark

Applications: Simulink, Proteus, PSSE, PSAF, Quartus II, Xilinx ISE

Languages: Bengali (Native), English (Professional)

Standardized Test Scores

International English Language Testing System (IELTS)

Overall	Listening	Reading	Writing	Speaking
7.5	8	7.5	7	6.5

Awards & Certificates

Deep Learning Specialization: Completed deep learning specialization course offered by deeplearning.ai.

HackerRank Gold Badge: Achieved gold badge for SQL and Python in HackerRank

Certified Supply Chain Analyst, CSCA: Awarded by ISCEA for completion supply chain management certification.

Bronze Award Winner: Awarded by The Duke of Edinburgh's International Award Foundation

Education Board Scholarship (HSC), 2016

Education Board Scholarship (SSC), 2014

Academic Projects

Automated Level Crossing System | *GitHub*

- We developed fully autonomous level crossing system by training and optimising an object detection algorithm in a raspberry pi microprocessor with accuracy 98.45% during daytime and 89.9% during night hours.
- We also used object detection for activity monitoring (detecting trespasser, vehicle) in the junction and automated voice alerts and emergency siren if any unusual circumstances is monitored.

SIIM ISIC Melanona Classification | *GitHub*

- Classified Melanoma images using computer vision algorithms such as EfficientNet, ResNet, UNet etc. with major focus in image enhancement and segementation techniques.
- Our final result was based on rank ensemble of EfficientNet algorithms which achieved 0.9313 ROC and finished within top 21 percent amongst 3308 teams participated worldwide.

Real-Time Speech to Braile | *GitHub*

- This was a group project in Microprocessor & Embedded Systems Laboratory course. We designed this software simulation of real-time speech to braille system using Google Voice API, STM32Cube IDE, Virtual Serial Port & Proteus.

Organizations

Student Member, IEEE

Alumni Member, BUET Alumni Society

Alumni Member, OFA(Old Faujians Association)

Volunteer

Student Member, Badhon (A voluntary blood donors' organization)

Hobbies

Basketball, Books & Podcasts

References

Dr. Md. Kawser Alam, Professor, Dept. of EEE, BUET

Dr. Md. Forkan Uddin, Professor, Dept. of EEE, BUET

Zamilur Rashid, General Manager, Moonfrog Labs