Shihab Muhtasim

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GitHub | LinkedIn | Portfolio

RESEARCH OBJECTIVE

My research experiences are in Natural Language Processing (NLP), Machine Learning (ML), Network Science, and Data Science. I am also eager to explore diverse research fields, leveraging my strong foundation in computer science and engineering.

EDUCATION

BRAC University Dhaka, Bangladesh
Bachelor of Science in Computer Science Engineering Jun. 2021 – Oct. 2024
CGPA: 4.00/4.00

Thesis: Analyzing and Predicting Trends in Contemporary Social Discourse through Hashtag Campaigns.
Description*: This research examined popular hashtags on social media uncovering characteristics that make these hashtags popular. It constructs networks, illustrating information propagation and user interactions across diverse groups. In addition, it predicts the popularity of certain trends using sequential time series forecasting using LSTM. It utilizes techniques in network science and graph theory concepts, unsupervised machine learning tools, the greedy modularity maximization model, and many other natural language processing (NLP) tools to analyze and predict trends of social media.*
Marks: 99.56/100

WORK EXPERIENCE

Adjunct Lecturer Dhaka, Bangladesh
Department of Computer Science Engineering, BRAC University Feb. 2023 – Present
Roles: Teaching advanced and core courses such as Data Structures, OOP, OS, Microprocessors, and AI; taking 21 hours of lab each week and providing 6 hours of consultation; checking assignments; conducting exams; taking vivas; and invigilating exams.

Teaching Assistant Dhaka, Bangladesh
Department of Computer Science Engineering, BRAC University Sep. 2023 – Sep. 2024
Roles: Provided 12 hours of weekly consultation sessions to a class of 35 students, assisted with 3 hours of lab sessions each week for the Data Structures course, graded assignments, evaluated student progress, conducted viva assessments, and conducted final lab exams. ***Link***

Head of Web Development Dhaka, Bangladesh
Institute of Young Talents (IYT) Sep. 2023 – Oct. 2024
Roles: Led the web development team, guided several projects, recruited new members, and developed websites. **Link**

ACHIEVEMENTS

- **Erasmus Mundus Scholar** : Selected for two master's programs across Europe, both under a fully funded Erasmus Mundus Plus scholarship. One student from Bangladesh and fewer than 20 students worldwide were chosen for these awards. ***IPCVAI*** & ***EMJM Imaging***
- **Chancellor's Gold Medalist** : One student out of all undergraduate programs if chosen for this award. I was chosen as a chancellor's gold medalist out of 4600 graduates in 2025. ***Link***
- **Valedictorian of 16th Convocation** : I was chosen as the only one graduate out of the whole graduating class as the valedictorian to represent them.
- **Vice Chancellor's List**: For obtaining a GPA of 4.0 in all semesters at BRAC University.

- **Merit-Based Scholarship**: Received 100% waiver on tuition fees at BRAC University.
- **Thesis Distinction**: Achieved the highest grade of 99.56/100 for my undergraduate thesis.

ACADEMIC PROJECTS

Weather Predicting Machine Learning Model: Developed several machine learning models for weather prediction conducting dataset preprocessing, model analysis, model selection, and comparison, focusing on precision and recall metrics. ***Link***

NLP Movie Review Classification: Developed sentiment analysis models using Natural Language Processing, implementing a variety of tools to classify movie reviews as positive or negative. ***Link***

Traffic Fatalities Through Data Science and ML: Analyzed traffic accident data to uncover patterns, cluster states, and predict factors influencing fatality rates. ***Link***

Image Analysis through Deep Learning and Neural Networks: Implemented neural networks for image analysis, including deep learning techniques like regularization and optimization. Gained hands-on experience in designing, training, tuning, and evaluating multi-layer neural networks. ***Link***

TECHNICAL SKILLS

Programming Languages: Python, PHP, R, Assembly, C, C++, Java.
Web Development: HTML, CSS, JavaScript, Laravel, SQL, React.
ML & NLP Libraries: NetworkX, TensorFlow, NLTK, Transformers, Keras, PyTorch, Pandas, Matplotlib, NumPy, Scikit-learn, Seaborn.

CERTIFICATIONS

- **Neural Networks and Deep Learning**: Coursera
- **Website Development Completion**: Institute of Young Talents (IYT)
- **Introduction to LLMs in Python**: DataCamp
- **Image Processing in Python**: DataCamp
- **Image Modeling with Keras**: DataCamp
- **Biomedical Image Analysis in Python**: DataCamp

EXTRA-CURRICULAR ACTIVITIES

- **Executive and Semi-Finalist of Hult Prize**: Contributed as an executive of content as an organizer and led my team to the semi-finals of the competition. ***Link***
- **Project ORKO, BRAC**: Prepared teaching modules for underprivileged kids. ***Link***
- **Environment Volunteer**: Planted trees and cleaned rivers to promote a greener environment ***Link***
- **Programming Experience**: ***Link***
  - ***Brac University Debugging Competition 2024:*** 1st position in the first round.
  - **HackerRank:** 4 Star Badge in Problem Solving & 3 Stars in SQL.
  - **Learnathon 3.0:** Top 400 out of 30k participants in the first round.
  - **Brac University Intra University Junior Contest 2022:** 32nd position out of 187 teams.
- **Communication and Leadership Skills**:
  - Led all academic projects and thesis (8 projects).
  - Co-supervising a research team working on image segmentation.
  - Led my teams in competitive programming contests.
  - Mentored juniors at Brac University as a TA of the Data Structure course.

TEST SCORES

IELTS: Overall Band Score: 7.5 19 November 2024
Listening: 8.0, Reading: 8.5, Speaking: 7.0, Writing: 7.0