Zannatul Fardaush Tripty

Dhaka, Bangladesh
+8801767617977 zannatul.fardaush.03@gmail.com Linkedin ResearchGate Github

Education

Bachelor of Science (with HONORS) in Computer Science and Engineering Feb 2019 - Jun 2024
Chittagong University of Engineering and Technology (CUET) Chittagong, Bangladesh
CGPA – 3.78/4.00; **Rank: 9th** out of **131** students

Professional Experience

Research Assistant (Remote) Starting Sep 2025
Elite Lab, New York, USA

Software Engineer Intern (Onsite) Feb 2025 - Apr 2025
Newroz Technologies Limited, Dhaka, Bangladesh

- Gained advanced proficiency in **Python**, specializing in data structures, file handling, error management, and object-oriented programming (OOP) to develop robust software solutions.
- Strengthened problem-solving capabilities by applying Python to complex real-world projects, incorporating OOP principles for improved code maintainability and scalability.

Industrial Trainee (Onsite) 26th Sep 2023 - 9th Oct 2023
Brain Station 23, Dhaka, Bangladesh

- Developed a solid understanding of industry practices and methodologies

Research Interest

- Natural Language Processing (NLP)
- Large Language Models (LLMs)
- Computer Vision
- Multimodal Learning

Research Experience

Undergraduate Thesis

Title: Bengali Food Item Classification and Nutritional Analysis Using Deep Learning Technique
Supervisor: Dr. Muhammad Ibrahim Khan, Professor, Department of Computer Science and Engineering, CUET

- Achieved **98.85% weighted F1-score** using a **weighted ensemble of Vision Transformer models (ViT-B/16, B/32, L/16, L/32)** for Bengali food classification.
- Built and annotated a custom dataset of 6,880 Bengali food images (24 classes), expanded to 22,968 images using augmentation techniques.
- Developed a Flask-based web application for Bengali food recognition and real-time nutritional analysis from user-uploaded images.

Publications

1. **Tripty, Z.**, Nafis, M., Chowdhury, A., Hossain, J., Ahsan, S., & Hoque, M. M. (2024, March). **CUET-SentimentSillies@ DravidianLangTech EACL2024: Transformer-based Approach for Detecting and Categorizing Fake News in Malayalam Language**. In Proceedings of the Fourth Workshop on Speech, Vision, and Language Technologies for Dravidian Languages (pp. 245-251).|Link

2. **Tripty, Z.**, Nafis, M., Chowdhury, A., Hossain, J., Ahsan, S., Das, A., & Hoque, M. M. (2024, March). **CUETSentimentSillies@ DravidianLangTech-EACL2024: Transformer-based Approach for Sentiment Analysis in Tamil and Tulu Code-Mixed Texts**. In Proceedings of the Fourth Workshop on Speech, Vision, and Language Technologies for Dravidian Languages (pp. 234-239).|Link

Projects

1. **Library Management System** |Link
   Stacks: **Python, SQLite**

   - Developed a Python-based CLI system with user authentication and book/member management.
   - Implemented secure data storage using SQLite and enabled CSV import/export.
   - Applied object-oriented design principles for modular and maintainable code.

2. **Food Nutrition Checker** |Link
   Stacks: **Python, Flask, HTML**

   - Developed a web app for **food recognition** using an ensemble of Vision Transformers (ViT) for 24 Bangladeshi foods.
   - Calculated and scaled nutrient values and ingredient quantities from user inputs.
   - Backend with Flask and Pandas; dynamic results via HTML templates, supporting image uploads/URLs.

3. **Day Care Management System** |Link
   Stacks: **HTML, CSS, JavaScript, Bootstrap, PHP**

   - Developed a web-based system for daycare reservations and service bookings.
   - Implemented admin features for tracking and managing reservations.
   - Designed the user interface with HTML, CSS, JavaScript, and Bootstrap for responsiveness.

4. **Cardio Checker App** |Link
   Stacks: **Flutter, Firebase**

   - Developed a health app to monitor BMI and predict heart disease risks.
   - Integrated **machine learning** for risk prediction and personalized nutrition advice.
   - Used Firebase for backend services, including authentication and data storage.

Awards & Honors

Dean's List Award for Excellent Scholarly Achievement 2019 – 2024
Chittagong University of Engineering and Technology (CUET) Awarded for 3 consecutive academic years

University Merit Scholarship 2019 – 2024
Chittagong University of Engineering and Technology (CUET) All 8 semesters of study

2nd & 5th @DravidianLangTech@EACL 2024 (Fake News Detection, Task 1 & 2) 2024
Fourth Workshop on Speech, Vision, and Language Technologies for Dravidian Languages @EACL 2024

2nd & 5th @DravidianLangTech@EACL 2024 (Sentiment Analysis, Tamil & Tulu) 2024
Fourth Workshop on Speech, Vision, and Language Technologies for Dravidian Languages @EACL 2024

Technical Skills

Programming Languages	Python, C, C++
Libraries & Packages	TensorFlow, Pandas, NumPy, Matplotlib
Frameworks	Flask, Django, React.js, Flutter
Databases	MySQL, SQLite
Tools & Platforms	Git/GitHub, VS Code, Jupyter Notebook, Android Studio, Code Blocks
Documentation	LaTeX, MS Word, MS Excel, MS PowerPoint

Standardized Test Scores

GRE: 309/340 (Quant: 162/170, Verbal: 147/170, AWA: 3.5/6) February, 2025

Leadership and Extracurricular Activities

Member, CUET NLP Lab Jan 2024 - Present
Assistant Organizing Secretary(Programming), CUET Computer Club Aug 2023 - Jun 2024
Organizing Committee Member, HULT PRIZE at CUET Sep 2019 - Dec 2021
Executive Member, CUET Career Club Mar 2019 - Aug 2022