Sumaiya Khatun

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OVERVIEW

An Electronics and Communication Engineering (ECE) graduate with a keen interest in the telecommunications domain and large-scale networked systems. Academic exposure and project work have helped build an understanding of software-driven and data-centric applications. The Ericsson Ascent Graduate Program is viewed as a valuable opportunity to learn from industry experts, develop practical skills, and contribute meaningfully to real-world telecom solutions.

PROJECTS

- **Developed and tested a Hospital Management System project**
  - hospital management system designed to streamline hospital operations, manage patient records. It includes modules for patient registration, doctor appointments, billing, and inventory management. Tool:**C#, .NET Core, JSON for storage**
- **Smart Health Monitoring System using IoT Sensors**
  - Designed and implemented an IoT-based system for real-time patient monitoring.

  Tool:**Python, Power BI, Sensors**
- **Student Grading App**
  - A console application where the user (e.g., a teacher or admin) can input a list of students and their marks in different subjects. The app will then calculate each student's average score and assign them a grade (like A, B, C, etc.).

  Tool:**C#, .NET Core**
- **A landing page project for a bakery business called 'Big Eater'**
  - Designed and built a responsive landing page featuring a hero section, navigation bar, services section, and contact form

  Tool:**HTML, CSS**

EDUCATION

Bachelor of Science (B.Sc.) in Electronics and Communication Engineering
Khulna University of Engineering & Technology (KUET) Khulna, Bangladesh

Relevant Coursework: Database Management Systems , Data Structures, Algorithms, OOP, Linear Algebra, Calculus, Probability & Statistics

Higher Secondary Certificate (HSC)
Ishwardi Govt. College 2017

Secondary School Certificate (SSC) 2015
Bangladesh Railway Govt. NazimUddin High School

SKILL SUMMARY

- **Languages:** **JavaScript, Python** (TensorFlow, Plotly, Seaborn, Matplotlib, and other utilities such as **Numpy**, **Pandas**, **Scikit-learn**, etc.), C/C++, HTML, CSS, **MATLAB**
- **Databases:** SQL, MySQL
- **Tools** Postman (API Testing), Trello, Microsoft Excel, Power BI
- **Soft skills:** **Leadership**, Communication, **Project Management**, Time Management

RESEARCH EXPERIENCE

Undergrad Thesis
Path Planning with Unmanned Aerial Vehicle (UAV): A Markov Decision Process Approach

- Developed algorithms for UAV navigation to enhance network security
- Utilized MATLAB and Simulink for simulating UAV operations
- Optimized path planning for secure and autonomous UAV operations in complex environments
- Advanced UAV-based solutions for real-world network protection using ML approach

Research Project Collaboration
Diagnosis of Dementia using SHAP-based Explainable Machine Learning

- Collaboration project with researcher from The University of New South Wales (UNSW), Australia
- Worked on early dementia detection through Python, machine learning (ML), 91.37% accuracy
- Facilitated interpretability using SHapley Additive exPlanations (SHAP) to ensure accuracy
- Utilized explainable AI to advance reliable and trustworthy dementia diagnosis

VOLUNTEERING EXPERIENCE

Assistant General Secretary 2022 - 2023
KUET Math Club

- R&D & Technical Roles in KUET Math Club

Organizing Secretary
IEEE Student Branch KUET 2022 - 2023

- Organized technical sessions involving tools i.e., Latex, word, Mendeley. R&D and Technical Roles in IEEE KUET

Debater
KUET Debating Society 2018-2019

- Participated and excelled in inter-university debate competitions.

AWARDS and ACHIEVEMENTS

- **2nd runner up** (regional level), Speak Out for Engineering (SOFE), 2021
- Certified Supply Chain Analyst (CSCA), **$1100 scholarship (ISCEA),** 2022-2025
- Recipient of **Government Scholarship,** for **Academic Excellence** in National Board Exams
- Participant in Mathematics Olympiad (regional level), **Top 15**, 2016