JARIN TASNIM DIYA

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: jarin-tasnim-diya | : Jarin160 | : Portfolio

EDUCATION

2024 **B.Sc. in Electrical and Electronic Engineering** CGPA: 3.56/4.00
Chittagong University of Engineering and Technology Chattogram, Bangladesh
Thesis: Design of an AMC Integrated Circularly Polarized Metamaterial Antenna for X-Band Applications.

2018 **Higher Secondary (Science)** GPA: 5.00/5.00
Abdul Kadir Mollah City College Dhaka, Bangladesh

2016 **Secondary School (Science)** GPA: 5.00/5.00
Pakundia Girls High School Dhaka, Bangladesh

RESEARCH INTERESTS

Artificial Intelligence | Machine Learning Applications | Computer Vision | Robotics | Backend Development and API Integration

PROJECT WORKS

Software-Based

- **Predictive Modeling for Agriculture** (*Python, Scikit-learn*):
  - Built a machine learning model to recommend optimal crops based on soil and weather data.
  - Evaluated multiple classifiers and achieved 99.45% accuracy with Random Forest.
- **Twitter Sentiment Analysis** (*Python, NLTK, Scikit-learn*):
  - Developed an NLP pipeline with tokenization, lemmatization, and stop-word removal for sentiment classification.
  - Implemented Random Forest and Logistic Regression; assessed with accuracy, precision, recall, and F1-score.
- **Book Recommendation System** (*Python, Cosine Similarity*):
  - Designed a collaborative filtering engine to recommend books by genre or user preferences.
  - Applied cosine similarity to calculate pairwise similarity and generate recommendations.
- **Engineer's Dictionary** (*Python, Tkinter*):
  - Created a GUI-based dictionary tailored for engineering terms.
  - Added functionality to store and update new words for future use.

Hardware-Based

- **Soccer-Bot (Arduino, Bluetooth):** Built and programmed a remote-controlled soccer-bot, integrating motor control and Bluetooth communication modules.
- **Automatic Street Light System (Arduino, LDR, IR Sensors):** Designed and implemented an automated lighting system with intensity control for energy efficiency.

- **Solar Tracking System (Arduino, LDR Sensors):** An automatic solar tracker that maximizes energy capture by automatically adjusting the direction toward the sunlight intensity.

SKILLS

Programming Language: Python, C
Frameworks/Tools: Django, HTML, CSS, Spacy, Tkinter
Libraries: NumPy, Pandas, Matplotlib, OpenCV, Scikit-Learn, TensorFlow
Databases: MySQL
Version Control: GitHub
Drafting and Design Software: TinkerCAD, Proteus

AWARDS AND CERTIFICATIONS

- Institutional Scholarship – Chittagong University of Engineering and Technology
- IBM Introduction to Machine Learning Specialization – IBM
- Data Analysis with Python – Coursera
- Python for Data Science, AI & Development – IBM
- Introduction to Software Engineering – IBM

INDUSTRIAL TRAINING

Industrial Attachment | 2023
Dhaka Power Distribution Company (DPDC), Dhaka, Bangladesh

- Gained exposure to power distribution systems, grid operation, and electrical safety procedures.
- Gained experience in routine system monitoring and fault analysis.

LEADERSHIP AND EXTRACURRICULAR ACTIVITIES

- **General Secretary, Women's Wing**, Andromeda Space & Robotics Research Organization (2022-2023).
- **Branch Member,** IEEE Student Branch CUET (2020-2021).
- **Speaker**, Learning from IEEE Resource Series 5, IEEE CUET WIE Affinity Group Student Branch.
- **Author**, "*Electricity from Living Plant – A Gift of Nature*" – Awarded Best Article in RMA Present Telescope and published in the yearly magazine RMA Telescope.
- **Delegate**, *Global Youth Climate Summit* (March 2021).
- **Volunteer**, IEEE Day 2020 & IEEE PES Day 2021, IEEE CUET Student Branch.
- **Competitions**: RoboSoccer (RMA TECHDAY 2021), Poster Contest (3rd Place – "*MOXIE: Breathing on RED Planet*").

REFERENCES

Dr. Mohammad Siddiqur Rahman Khan
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Dhaka University
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