Abir Ehsan Evan

AI Developer and Research Assistant

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Professional Profile

A Computer Science Graduate passionate about Machine Learning, Data Analysis and Software Development, experienced in building LLM-powered chatbots and AI assistants for industrial and research products.

Technical Skills

Languages: Python, Java, SQL, JavaScript, HTML/CSS

Frameworks: TensorFlow & Keras, PyTorch, PHP (Core PHP and Laravel)

Visualization & Analysis Tools: Power BI, SPSS, Google Colab (Python-based data visualization)

Developer Tools: Git, AWS Cloud Platform, VS Code, Visual Studio, PyCharm

Domains: Core ML, NLP, LLM, Image Processing, Web Scraping

Work Experience

Betopia Group

- Working on Large Language Models (LLMs) and Chatbots for Industrial Services and applications.
- Contributing to the development of **Industrial Softwares**, AI assistants integrated with **Real-time softwares and Applications** for customer service automation and business.

AI Developer **January 2026 – Present**

DND Lab, University of Dhaka

- **Voice Interface Integration:** Implemented the multilingual voice-enabled system by integrating Speech-to-Text (STT) and Text-to-Speech (TTS) capabilities, involving the evaluation and deployment of various Automatic Speech Recognition (ASR) models and APIs to ensure robust performance.
- **Ethnographic Research Analysis:** Conducted on-the-ground ethnography at 3 zonal electricity offices to understand user needs and operational contexts. The insights from this HCI-oriented study directly informed the agent's design, focusing on usability and cultural relevance.

Research Assistant **October 2025 – Present**

Innovative Skills LTD, Bangladesh

- Developed a medical chatbot Web Application using NLP and AI models (OpenAI GPT / LLaMA) for symptom analysis and disease prediction.
- Built a Django REST backend to integrate AI insights with scraped data for real-time symptom checking ,doctor/hospital recommendations and appointment scheduling.

Machine Learning Intern **May 2025 - August 2025**

The Center for Astronomy, Space Science and Astrophysics (CASSA), IUB

- Analyzed cold fronts and radio minihalos in galaxy clusters using multi-wavelength data.
- Processed Chandra and MeerKAT data with Python and NumPy to support ML models and pipeline optimization.
- Cross-analyzed radio and x-ray data to validate hypotheses and contribute to publications.

Machine Learning Intern (Research) **February 2025 - October 2025**

IELTS English Language Instructor, Academia **March 2018 – July 2018**

- Conducted hands-on training and classes to improve students' English speaking, writing, and listening skills, guiding them toward language proficiency through lessons and study sessions.

Education

Independent University Bangladesh **2020-2025** ***BSc in Computer Science.***
BSc in Computer Science, focusing on programming, computational fundamentals, and machine learning, with an active involvement in a Research projects and extracurricular activities.

Projects (Selected)

Chatopia, a high-performance RAG (Retrieval-Augmented Generation) chatbot

- Developed a multimodal RAG system that processes various data formats (PDFs, images) to provide context-aware responses, utilizing Faster-Whisper for low-latency STT and Edge-TTS for high-quality voice synthesis.
- Integrated an automated meeting-scheduling backend that extracts user intent and lead information (Name, Phone, Email) from voice/text queries, securely logging data into a structured JSON database for business follow-ups.
- Optimized real-time performance by implementing a sliding-window transcription logic and FAISS-based vector indexing, enabling the assistant to maintain conversation history and retrieve relevant knowledge chunks with sub-second latency.

Automated Slum Detection Using Satellite Imagery of Dhaka, Bangladesh

- Built an unsupervised ML pipeline to detect slums in Dhaka from satellite images for urban planning.
- Achieved 87% accuracy; slums had 2.5× higher building density (0.18 vs. 0.07) and lower vegetation index (-0.08 vs. +0.82).
- Used edge density, GLCM texture, pseudo-NDVI, and K-Means in Python (OpenCV, scikit-learn) with heatmap visualization.

Certifications And Awards

- **Completion of Stanford University and DeepLearning.**
  AI Machine Learning Specialization on Coursera.
- Completion of workshop on Deep Learning and LLM models (Dhaka University)
- Student Researcher of Researching Endangered Languages. SCMLE, IUB.
- Academia Intra-School Debate Champion
- Edexcel High Achievers Award IGCSE