

Hasan Mahmood

AI/ML Engineer

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About Me

AI Engineer with a solid background in developing and deploying machine learning models for NLP, computer vision, and recommendation systems, using TensorFlow, PyTorch, and Scikit-Learn. Experienced in full-stack development with proficiency in Python, Django, and modern JavaScript frameworks, alongside strong skills in data analytics and cloud platforms like AWS and Google Cloud. Proven ability to deliver scalable, AI-driven, and data-centric solutions that enhance performance, usability, and business outcomes.

Experience

Join Venture AI | Dec 2024 - Present

AI Developer (R&D) | Dhaka, Bangladesh | Jul 2025 - Present

- Spearheaded the design and development of custom AI models tailored to domain-specific challenges in NLP, computer vision, and predictive analytics. Drove innovative R&D initiatives to build proprietary deep learning architectures, fine-tune LLMs, and implement AI-first solutions from the ground up. Collaborated closely with cross-functional teams to transform business problems into intelligent systems, leveraging advanced model training techniques, custom data pipelines, and rigorous experimentation cycles.

Jr. AI Developer | Dhaka, Bangladesh | Dec 2024 - Jul 2025

- Developed and deployed production-ready AI/ML solutions in NLP, computer vision, and recommendation systems. Specializing in large language models, scalable ML pipelines, and cloud-native deployments using AWS, GCP, Docker, and Kubernetes.

Basic Bank Limited | May 2023 - Aug 2023

Intern | Dhaka, Bangladesh

- Gained hands-on experience in banking operations, financial data analysis, and customer service, contributing to improved branch efficiency.
- Assisted in data entry, transaction processing, and report generation, improving operational efficiency.

Skills

- AI & Machine Learning:** Model training, Fine-tuning, Feature Engineering, and evaluation using TensorFlow, PyTorch, and Scikit-Learn
- Deep Learning & NLP:** Expertise in computer vision, Transformers, Generative AI, and chatbot development with OpenAI GPT, Hugging Face, Rasa
- Backend Development:** Experienced in Flask, FastAPI, Django, and Node.js for RESTful API development, server-side logic, and system integration
- Frontend Development:** Skilled in HTML5, CSS3, Bootstrap, JavaScript, familiar with React.js, and responsive web design principles
- Programming & Development:** Proficient in Python, C, C++, C#, Java; experienced in Flask, FastAPI, Django for AI integration
- MLOps & Deployment:** Familiar with MLflow, DVC, Docker, and cloud deployment on AWS, Google Cloud
- Data & Analytics:** Strong in SQL (MySQL, PostgreSQL), NoSQL, Data pipelines, and visualization with Pandas, Matplotlib, Seaborn, Tableau
- Algorithms & Optimization:** Solid foundation in data structures, Dynamic programming, and model efficiency
- Version Control & Collaboration:** Proficient in Git/GitHub, Agile workflows, and cross-functional teamwork

Projects

Custom Reasoning Model | [GitHub Repository](#) | Nov 2024 - Present

- Leveraging the Facebook/Natural_Reasoning dataset and the LLaMA 3.2 architecture (licensed). The goal is to fine-tune the model to perform advanced semantic rewording, paraphrasing, and reasoning-based reformulations of natural language inputs.

Aria AI Voice Agent | [GitHub Repository](#) | Dec 2024 - Present

- An AI voice assistant designed for human-like, real-time voice conversations. Built using Deepgram (speech-to-text), ElevenLabs (text-to-speech), and OpenAI (NLP + conversation logic)

Twitter Sentiment Analysis | [GitHub Repository](#) | Oct 2024 - Present

- This project performs a comprehensive exploratory data analysis (EDA) and sentiment analysis on a real-world Twitter dataset related to the documentary "The Social Dilemma". It includes over 20,000 tweets containing user metadata, tweet content, sentiment labels, hashtags, and more.

Travel Planner AI | [GitHub Repository](#) | Mar 2025 - Present

- An AI-powered multilingual travel assistant that helps users effortlessly build personalized travel itineraries through a natural language conversation. The assistant captures user preferences and generates a full trip plan powered by real-time travel data and APIs like Booking.com. Supports both English and Chinese language modes.

Education

Dhaka City College | 2019 - 2024

Bachelor of Science (B.Sc.) | Computer Science & Engineering | Dhaka, Bangladesh

- **CGPA:** 3.20/4.00
- **Achievements:** Final Year Project: Hand Sign Language Detector - Achieved 90 %+ accuracy in real-time alphanumeric gesture recognition using OpenCV & MediaPipe. | [Github Repository](#)

Dhaka City College | 2015 - 2019

Higher Secondary School Certificate | Dhaka, Bangladesh

- **GPA:** 5.00/5.00
- **Achievements:** Achieved Golden A+ (GPA 5.00) by securing A+ in all subjects, including the optional subject.

Certifications

- **Google Data Analytics | Google | May 2022**
Data cleaning, analysis, and visualization with R and SQL | [Credential](#)
- **Google IT Automation with Python | Coursera/Google | March 2024**
Python scripting, IT automation, Git, debugging | [Credential](#)
- **Machine Learning | Stanford University & DeepLearning.AI | April 2024**
Supervised/unsupervised learning, neural networks, deep learning | [Credential](#)
- **Responsive Web Design | FreeCodeCamp | March 2023**
HTML, CSS, Flexbox, Grid, web accessibility | [Credential](#)
- **The Fundamentals of Digital Marketing | Google Digital Garage | December 2021**
SEO, SEM, content marketing, social media, analytics | [Credential](#)

Languages

- **Bengali/Bangla** (Native or Bilingual Proficiency)
- **English** (Full Proficiency)
- **Spanish** (Limited Working Proficiency)