MD SAZZAD HOSSAIN

AI Engineer

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SUMMARY

AI Engineer (4+ years) specializing in full-cycle **Generative AI** and **traditional Machine Learning** development. Experienced in designing scalable **RAG pipelines**, **multi-agent systems**, and high-performance data infrastructure. Strong foundation in classical ML algorithms, feature engineering, and model evaluation for predictive analytics. Proven ability to optimize **LLMs** through fine-tuning, context engineering, and performance benchmarking delivering production-grade AI systems with measurable business impact.

EXPERIENCE

AI Engineer *Banani, Dhaka*
JB Connect Ltd. *05/2025–Present*

- Built and deployed an **AI Assistant** for a manufacturing firm specializing in laser and optical systems, automating key workflows and reducing manual operations by 65%.
- Developed and optimized **ETL pipelines** for ingesting, cleaning, and transforming heterogeneous Japanese-language datasets, enabling efficient downstream AI model training and evaluation.
- Designed and optimized **multi-agent systems** enabling coordinated, autonomous task execution.
- Enhanced **RAG architecture** for improved contextual retrieval and response grounding.
- Applied advanced **context engineering** to structure prompts and retrieval context, enhancing LLM accuracy and response relevance.

Machine Learning Engineer *Uttara, Dhaka*
Devolved AI *03/2024–05/2025*

- Led a team in the development of a decentralized LLM training and deployment.
- Engineered end-to-end data pipelines (**preprocessing, feature engineering**) to support scalable training.
- Designed custom LLM architectures, optimizing performance for task-specific **NLP requirements**.
- Developed instruct and evaluation datasets, ensuring high **model alignment** and continuous improvement.
- Managed **decentralized training** processes and established rigorous model evaluation methodologies.
- Collaborated with software teams to integrate AI models, successfully deploying **Web Chat and Desktop Client** applications.

Software Engineer *Gulshan-2, Dhaka*
Cloud-coder Ltd. *09/2021–02/2024*

- Led the development of a **Bangla Language Model**, advancing NLP for regional languages and contributing to open-source projects.
- Developed the **"SpeechToSpeech"** project utilizing Bengali ASR and TTS models, integrated with the Bangla Language Model.
- Designed and implemented a **Retrieval-Augmented Generation** (RAG) system, enhancing its ability to retrieve and generate contextually relevant information.
- Designed and built an **ASR** system for Bengali regional dialects.
- Built and deployed **computer vision** systems for **ad detection**, **behavior-based digital signage**, and **multi-camera surveillance**, optimized with advanced hashing for real-time performance.
- Designed a **RISC-V vector extension compiler** in C++, optimizing performance and extending functionality for RISC-V architecture in embedded systems.

TECHNICAL SKILLS

Generative AI & LLMs: RAG, Multi-Agent Systems, Fine-tuning (PEFT), Prompt & Context Engineering.

Frameworks: LangChain, LlamaIndex, Ollama, Agno, Uptrain, DeepEval.

MLOps & Deployment: Docker, DVC, CI/CD, MLflow, Model Quantization.

Machine Learning & Deep Learning: PyTorch, Scikit-learn, SpaCy, OpenCV (CV & NLP).

Data & Databases: Weaviate, MongoDB, ChromaDB, MySQL, Pandas, NumPy, Dask.

Programming & Tools: Python, C++, FastAPI, Git.

Cloud : AWS, GCP

EDUCATION

B.Sc. in Computer Science and Engineering *Dhaka, Bangladesh*
Daffodil International University *2018–2021*
CGPA: 3.91/4.0

PROJECTS

Medical Consultation Assist:Context-aware AI system providing accurate medical recommendations(Github ☑)
Sales Campaign CRM Agent:Automated AI agent optimizing CRM sales outreach(Github ☑)
AgentSync:Scalable multi-agent framework for autonomous task execution(Github ☑)
AL-Fattah:Bengali language model with multi-expert design for domain-adaptive task(Github ☑)
Speech-to-Speech Chatbot – Real-time conversational AI enabling natural voice-based interactions(Github ☑)
Restaurant Recommendation System– Hybrid ML model for personalized restaurant suggestions (GitHub ☑)
Video & Image Background Remover – Deep learning tool for automatic background removal (GitHub ☑)

OTHER

Publications & Research
Co-authored *"ML SPS: Stroke Prediction System Employing Machine Learning Approach"* published in the International Conference on Artificial Intelligence and Data Science. [DOI Link] ☑

Competitive Programming: Solved 120+ problems on URI and 82 on Codeforces.

Certifications
Pandas Masterclass: Advanced Data Analysis with Pandas – Udemy ☑;
Data Visualization & Wrangling Masterclass – Udemy;
Machine Learning: From Basics to Advanced – Udemy ☑.

Achievements
2nd Runner-Up, Daffodil Inter-department Math Olympiad 2019;
HackerRank Python Gold Badge.

Languages English (Professional), Bengali (Native).