MD. MEHEDI HASAN

AI/ML Engineer

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PROFILE SUMMARY

Dedicated and innovative AI/ML Engineer with 3.5+ years of experience in developing and deploying intelligent, production-grade AI systems. Skilled in building end-to-end AI pipelines, automating complex workflows, and developing ML models. Experienced in real-time computer vision inference, vector database integration, and scalable MLOps practices. Proven success delivering AI solutions across Construction Logistics, Garments, Retail Analytics, and Toll Management domains.

WORK EXPERIENCE

AI Engineer | Projsite Jan 2025 - PRESENT

- Led development of Charlie, an AI support agent enabling real-time, context-aware interactions integrated with internal data and application state.
- Designed and implemented agent pipelines (retrieval, tool use, response generation) to improve answer accuracy and reduce manual support dependency.
- Contributed to the architecture and implementation of the next-generation Projsite platform, spanning backend, frontend, and AI systems.
- Contributed to Magic Reader, enabling automated conversion of supplier order confirmations into actionable delivery plans using AI and OCR.
- Built workflow orchestration using Apache Airflow, automating ingestion and transformation of external booking data into platform-ready formats.

Machine Learning Engineer | Altersense Limited Jan 2023 – Dec 2024

- Architected and deployed a real-time ML pipeline processing ~1.1 GB/s of camera streams, integrating Apache Kafka for scalable distributed inference.
- Delivered a robust object detection model in noisy environments, achieving an F1 score of 0.722 by addressing data imbalance challenges.
- Optimized inference pipelines using TensorRT and NVIDIA Nsight, reducing GPU memory usage by 30% and increasing throughput by 1.7x.
- Developed high-performance C++ ingestion modules using concurrency primitives (thread pools, mutexes, condition variables) for efficient streaming.
- Built end-to-end data infrastructure (Airflow + data warehouse) to support automated ETL, real-time analytics, and scheduled batch inference.
- Designed and scaled a CCTV-based data collection platform, reducing manual effort and improving data acquisition efficiency.
- Developed a Temporal Tracking-based automated data collection platform, leveraging CCTV footage to reduce manual effort and optimize data collection.

EDUCATION

North South University 2018 – 2022

- Bachelor of Computer Science & Engineering

SKILLS

Core: Python, C++, PyTorch, FastAPI
Data & Infra: MongoDB, Docker, Redis, Kafka, Airflow
Systems: Distributed Pipelines, Concurrency, ETL Orchestration, Event-Driven Systems
Specialization: AI Agents, LLM Apps, Real-Time Vision Inference, Vision Optimization

PUBLICATION

Results in Engineering, Volume 18, 101079

- **Hasan, M. M.***, Mondol Nilay, M. S., Jibon, N. H., & Rahman, R. M. (2023). *LULC changes to riverine flooding: A case study on the Jamuna River, Bangladesh using the multilayer perceptron model.*