

Md Mahabubul Hasan

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Location: Dhaka, Bangladesh

PROFESSIONAL SUMMARY

Software Engineer specializing in high-availability fintech systems and AI integration. Expert in Python, GO, and PostgreSQL with hands-on experience building scalable systems.

TECHNICAL SKILLS

Programming Languages: Python, GO, JavaScript

Backend Development: FastAPI, NestJS, Django, Gin, REST APIs, Microservices Architecture

AI & ML: PyTorch, OpenCV, LangChain, RAG Architecture, Computer Vision

Database Management: PostgreSQL, Patroni, MySQL, SQLAlchemy, Query Optimization, Data Modeling

DevOps: Docker, CI/CD Pipelines, GitHub Actions, AWS

Infrastructure & Tools: Redis, NGINX, HAProxy, Keycloak, APISIX, Linux, Git, Version Control

Monitoring & Analytics: Grafana, Prometheus, Loki, System Monitoring, Performance Metrics, Log Analysis

Methodologies: Agile Development, Scrum, TDD, Code Review, Pair Programming

PROFESSIONAL EXPERIENCE

Software Engineer

Fingerprint Information Technology Ltd

Dec 2024 – Present

Dhaka, Bangladesh

- Architected multi-data center payment gateway backend ensuring 99% uptime and fault-tolerant transaction processing.
- Deployed PostgreSQL Patroni cluster across 3 data centers with automatic failover and seamless replication.
- Implemented edge load balancing and optimized query performance, improving overall system resilience and throughput.
- Led backend team to deliver milestones on schedule through efficient task management and cross-team coordination.
- Built observability stack with Prometheus, Loki, and Grafana, enabling real-time monitoring and proactive alerting.
- Refactored legacy systems applying SOLID principles and clean architecture, reducing technical debt and improving maintainability.
- Containerized services with Docker and automated CI/CD pipelines via GitHub Actions, reducing deployment time.
- Developed proof-of-concept AI modules for education ERP aligned with IGCSE/O-Level curriculum.
- Technologies: Python, Go, FastAPI, Gin, PostgreSQL, Patroni, Grafana, Celery, Redis, Docker, Prometheus, Loki, S3, HAProxy

Software Engineer

Uhurutek Solutions Ltd

Jan 2023 – Nov 2023

Dhaka, Bangladesh

- Developed secure RAG-based chatbot systems using LangChain and OpenAI API, cutting customer support response time by 50%.
- Delivered on-premise chatbot solution for government tax agency, meeting strict security and compliance standards.
- Designed document ingestion pipeline supporting PDF, Word, and web content with automated chunking and vectorization.
- Enhanced retrieval accuracy to 92% on complex tax queries through advanced prompt engineering and context optimization.
- Built API gateway with Keycloak authentication and APISIX rate limiting to meet enterprise-grade performance.
- Migrated legacy infrastructure to FastAPI/PostgreSQL stack with distributed Redis caching, improving API latency.
- Technologies: Python, FastAPI, LangChain, APISIX, PostgreSQL, Docker, GitHub Actions, Keycloak, Redis, Vector DBs, RAG Architecture

Software Engineer

Adorsho Pranisheba Ltd

Oct 2022 – Dec 2023

Dhaka, Bangladesh

- Develop herd management backend integrating cattle identification, insurance verification, and health monitoring.
- Built muzzle based recognition backend for biometric cattle identification achieving 95% accuracy across 5K+ records.
- Integrated IoT sensor data for real-time livestock health monitoring and automated feeding optimization.
- Created shared farming investment platform enabling transparent multi-stakeholder tracking and reporting.
- Promoted from intern to Software Engineer within 3 months for outstanding technical performance.
- Technologies: Python, Django, OpenCV, PyTorch, MySQL, RabbitMQ, IoT Integration, Computer Vision, CNN

EDUCATION

Bachelor of Computer Science & Engineering

American International University-Bangladesh

Apr 2018 – Apr 2023

Dhaka, Bangladesh

- CGPA: 3.59/4.0
- Relevant Coursework: Data Structures, Algorithms, Database Systems, Software Engineering, Machine Learning

CERTIFICATIONS & ACHIEVEMENTS

Dr. Anwarul Abedin's Leadership Award - Gold Medalist, American International University Bangladesh

11th Place Worldwide, International Rover Challenge 2023, Space Robotics Society

IELTS Score: 7.0/9.0 (Reading: 7.5, Listening: 8.5, Speaking: 6.0, Writing: 6.0)