

# REDWAN RAHMAN

AI Engineer | Machine Learning & RAG Systems

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## PROFESSIONAL SUMMARY

Computer Science and Engineering graduate specializing in applied AI and machine learning engineering. Builds scalable, production-ready AI systems spanning Retrieval-Augmented Generation (RAG), vector search, and deep learning pipelines. Hands-on experience with containerized deployment (Docker), secure API design, and working familiarity with AWS, GCP, Azure. Focused on writing maintainable code and shipping AI features that hold up in production.

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## TECHNICAL SKILLS

- **AI/ML:** RAG pipelines, vector embeddings, semantic & hybrid search (BM25), chunking, reranking, CNNs, ensemble learning, feature engineering, hyperparameter tuning, explainable AI (XAI), classification & detection models, reinforcement learning (PPO, A2C, MAML, RLHF)
- **Languages & Frameworks:** Python, FastAPI, React, Flutter, PyTorch, Stable-Baselines3, Streamlit, LlamaIndex
- **Data & Infrastructure:** PostgreSQL, Redis, ChromaDB, Qdrant, Docker, GitHub Actions (CI/CD).
- **Engineering Practices:** LLMops/MLOps fundamentals, event-driven architecture, AI agent guardrails, secure CRUD API design, GitHub Copilot-assisted development, technical documentation

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## EXPERIENCE

### Backend AI Engineering Intern - FlyRank AI

Jul 2026 – Present

- Architecting containerized backend stacks and secure CRUD APIs that integrate with structured-output AI pipelines, streamlining reliable data exchange across services.
- Orchestrating durable, event-driven workflows using Ingest to run complex AI decision flows, increasing resilience of background job processing.
- Developing production-grade AI agents with execution guardrails, automated data scrapers, and dynamic reporting services to support operational decision-making.

### Artificial Intelligence Intern - CodeAlpha

Apr 2026 – Apr 2026

- Built an NLP-powered support bot that automated customer query handling using natural language processing techniques for intent recognition and response generation.
- Engineered a multi-language translator by integrating Google Translate and Azure Translator APIs, enabling seamless cross-language communication.
- Designed a symbolic music generation pipeline using LSTM networks, delivered through a CLI and a FastAPI dashboard with live logs and output management, backed by fully passing GitHub Actions CI workflows.

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## PROJECTS

### Astro-AI: AI-Assisted Galaxy Evolution Analysis Platform

- Built a modular Streamlit research platform unifying LLM-powered Q&A, TF-IDF document retrieval, 21cmFAST cosmic evolution simulations, JWST spectral analysis, and Bagpipes SED fitting for context-grounded galaxy evolution research.

### Blended AI: OBE-First Retrieval-Augmented Learning Platform

- Developed an Outcome-Based Education AI platform combining BM25 and semantic search with CO/PO-aware reranking, delivering citation-backed, curriculum-grounded answers via a FastAPI with persistent student memory and learning analytics.

### RAPCG-MetaRL: Resource-Aware Procedural Content Generation via Meta-Reinforcement Learning

- Extended PPO, A2C, MAML, and RLHF with algorithm-agnostic reward shaping to build a resource-aware PCG research framework, incorporating live hardware telemetry into RL reward functions across Zelda and Sokoban environments.

## EDUCATION

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### BSc in Computer Science and Engineering - Daffodil International University

2022 - 2026

CGPA: 3.11/4.00

### Higher Secondary Certificate (Science) - The Buds Residential Model School and College

2021

GPA: 4.92/5.00

### Secondary School Certificate (Science) - The Buds Residential Model School and College

2019

GPA: 4.50/5.00

## CERTIFICATIONS

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- Vector Search with RedisVL - Redis (Jul 2026)
- Google Cloud Computing Foundations: Cloud Computing Fundamentals - Google Cloud Skills Boost (Jul 2026)
- Introduction to Large Language Models - Google Cloud Skills Boost (Jun 2026)
- Artificial Intelligence for HR - Data Masters (May 2026)
- Getting Started with AI on Jetson Nano - NVIDIA (Feb 2026)
- The Fundamentals of LLMs - Hugging Face (Feb 2026)
- Customize Your GitHub Copilot Experience / Get Started Using GitHub Copilot - GitHub Skills (Feb 2026)
- Introduction to AI and Machine Learning on Google Cloud - Google Cloud Skills Boost (Jan 2026)
- AWS Academy Graduate: Machine Learning Foundations - AWS Academy (Jul 2025)
- Deep Learning with Keras and TensorFlow - IBM (Jun 2025)
- Machine Learning with Python - IBM (Apr 2025)
- Feature Engineering - Google (Jun 2025)

## COMPETITIONS

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- Finalist: Quran Foundation Hackathon 2026 (Individual)
- Finalist: DIU AI Project Competition 2026 (Team of 3)
- Finalist: DIU Unlock The Algorithm, Spring 2024 (Individual)
- Finalist: DIU Take Off CSE Fest 2022 (Individual)

## REFERENCES

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### Dr. Md Alamgir Kabir - Daffodil International University

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### Faruk Ahmed Riyad - Daffodil International University

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