

MD Azizul Hakim

✉ azizulhakim8291@gmail.com  [Github](#)  [LinkedIn](#)  [Google Scholar](#)  [Kaggle](#)

RESEARCH INTERESTS

Large Language Models, Reinforcement Learning, Test-Time Compute Efficiency in Large Language Models, Training Quality and Deployment Behaviour of LLMs, Inference Optimization of LLMs

EDUCATION

Diploma in Computer Science and Technology at Bangladesh Sweden Polytechnic Institute **2021 Jul - Feb 2026**
CGPA: 3.40/4.0
Major: Computer Technology

EXPERIENCE

AI Researcher Intern at Universe Soft Tech **Dec 2025 – Feb 2026**

PUBLICATIONS

Journal Articles [J1] **Hakim, M.A.**, & Alam, M.I. (2025). “Biologically inspired neural network layer with homeostatic regulation and adaptive repair mechanisms.” *Scientific Reports* (Nature Portfolio), 15, 9114. [\[paper\]](#) [\[code\]](#)

Conference Papers [C1] **Hakim, M.A.**, Ifty, R.A., Delowar, K.E., Shuvo, S.A., Tasneem, Z., & Alam, M.I. (2025). “A Novel Neuroplasticity-Based Approach for Enhanced Generalization in Computer Vision.” *IEEE Conference Proceedings*. [\[paper\]](#)

[C2] **Hakim, M.A.**, Ifty, R.A., Delowar, K.E., Chowdhury, S.H., Rashid, I., & Shakib, M. (2025). “Nutri-Guard: LLM-Driven Nutritional Assessment for Chronic Disease Prevention.” *IEEE Conference Proceedings*. [\[paper\]](#)

[C3] **Hakim, M.A.** (2025). “Neuroadaptive Intelligence: A Biologically-Inspired, Self-Repairing Neural Layer with Adaptive Learning for Molecular Graph Classification.” *IEEE Conference Proceedings*. [\[paper\]](#)

Preprints [P1] **Hakim, MD Azizul** (2025). “Brevity Constraints Reverse Performance Hierarchies in Language Models.” *arXiv preprint*. [\[arXiv\]](#) [\[code\]](#)

[P2] **Hakim, MD Azizul** (2025). “Multi-Scale Temporal Homeostasis Enables Efficient and Robust Neural Networks.” *arXiv preprint*. [\[arXiv\]](#) [\[code\]](#)

AWARDS & HONORS

2nd Runner-Up – AI Agent Development Competition **2025**
Insten Company in collaboration with International Islamic University Chittagong (IIUC)

Kaggle Notebooks Master — kaggle.com/hakim11 **2024**

SELECTED PROJECTS

FounderAI – Executive AI Agent Platform [GitHub](#)

- Comprehensive multi-agent system providing startup founders with AI-powered C-suite expertise (CMO, CPO, CTO, COO)
- Implemented multi-agent orchestration using CrewAI and LangGraph with Model Context Protocol (MCP)
- Capabilities spanning market intelligence, technical architecture, and fundraising strategy

LangChain • LangGraph • CrewAI • Multi-Agent Systems

AI-Driven Tourist Spot Finder [GitHub](#)

- Intelligent travel companion with multi-agent architecture for personalized destination recommendations

- FastAPI production backend with ML recommendation engine (collaborative + content-based filtering)
- Integrated LLMs for dynamic destination descriptions and real-time data (weather, pricing, availability)

FastAPI • Machine Learning • LangChain • MongoDB

Health-Conscious Food Recommendation System

[GitHub](#)

- Personalized nutrition AI with advanced OCR (Mistral OCR) for food label analysis
- LLM-powered nutritional assessment with RAG for real-time medical data integration
- Recommendation engine tailored to specific health conditions

Computer Vision • OCR • RAG • Healthcare AI

Bengali Text-to-Speech Synthesis

[GitHub](#)

- Fine-tuned Pegasus transformer for high-quality Bengali speech synthesis
- Full MLOps pipeline: automated training, deployment, and real-time inference API

Transformers • NLP • MLOps • Bengali Language

TECHNICAL SKILLS

Languages	Python (Expert), MATLAB, SQL, JavaScript
ML/DL Frameworks	PyTorch, TensorFlow, Keras, Scikit-learn, Hugging Face Transformers, OpenCV, NLTK, SpaCy, XGBoost, LightGBM, CatBoost
LLM & Agents	LangChain, LangGraph, CrewAI, RAG, MCP, Fine-tuning (Llama, Pegasus, Mistral)
MLOps & DevOps	Docker, Kubernetes, GitHub Actions, Jenkins, CircleCI, DVC, MLflow
Cloud Platforms	AWS, Azure, GCP
Databases	MongoDB, PostgreSQL, MySQL, Redis, Cassandra
Other	RESTful APIs, Microservices, Agile/Scrum, Feature Engineering, Model Interpretability, Responsible AI