Md Aminul Haque Palash

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Google Scholar

Education

- **United International University** — Dhaka, Bangladesh
  Masters in Data Science (Ongoing) — *2024 – Present*
  Courses: *Research Methodology, Advanced AI, Big Data, Generative AI*

- **Chittagong University of Engineering and Technology** — Chittagong, Bangladesh
  Bachelors of Computer Science & Engineering — *2015 – 2019*
  Courses: *Operating Systems, Data Structures, Analysis Of Algorithms, Artificial Intelligence, Machine Learning, Networking, Databases*

Experience

- **Foodi Express Limited**
  Senior Software Engineer (Full-time) — *January 2026 - Present*
  Working on FOODI, one of the largest food delivery platforms in Bangladesh handling millions of users and orders.
  - **Personalized Food Recommendation**
    - Built a recommendation system for menu items and branch suggestions using millions of order and user interaction data points.
    - Improved relevance and discovery on the platform through data-driven ranking approaches.
  - **Food Delivery ETA Prediction System (DeepETA)**
    - Developed food preparation time estimation models based on historical order trends, restaurant workload, and peak-hour traffic.
    - Currently extending this into DeepETA, a complete end-to-end delivery time estimation system.
  - **Demand Forecasting (In Progress)**
    - Designing demand forecasting models to predict order spikes across the platform, aimed at supporting inventory planning and proactive rider/resource allocation.
  - **Backend and Data Infrastructure**
    - Designing scalable data pipelines to process large-scale user activity data for downstream inference workflows.
    - Developing and maintaining high-performance, low-latency APIs, collaborating with a cross-functional engineering team on system design and delivery planning.

- **BJIT Limited**
  Senior Software Engineer (Full-time) — *October 2019 - January 2026*
  - **Multi-Agent Travel Assistant System**
    - Designed a modular multi-agent system for personalized travel planning with context-aware, dynamic decision-making workflows.
    - Orchestrated agents using LangGraph and LangChain, integrating search, routing, and weather APIs for real-time recommendation updates.
  - **Personalized Suggestion System**
    - Built a recommendation system based on structured user preference modeling, capable of identifying rare and hidden preferences in limited-data scenarios.
    - Processed 500k+ user interactions with recommendation latency under 100ms, improving diversity and fairness through synthetic data generation.
  - **AI Travel Diary App (iOS)**
    - Built an iOS app that auto-generates personalized travel diaries from user activity, with background activity recognition handling 10k+ daily events.
    - Reduced manual diary input effort by around 90 percent during internal usability testing.
  - **Edge AI Food & Restaurant Recommendation System**
    - Engineered an on-device recommendation system for Android and iOS using ONNX Runtime, enabling fully offline inference.
    - Developed RNN-based sequential models to predict users food-type preferences (e.g., Japanese, Italian, Chinese) and recommend relevant food items within the predicted category.
    - Achieved **88% food-type prediction accuracy** and **81% Top-5 recommendation hit rate** on evaluation datasets.
  - **Conversational AI Chatbot**
    - Worked on a Rasa-based chatbot implementing intent classification, entity extraction, and dialogue management flows.
    - Integrated REST APIs and backend services for dynamic, context-aware responses.

Teaching and Mentoring Experience

- **BJIT Academy**
  AI Engineer Trainer *December 2024 - January 2026*
  - : Participated in advanced training on RNNs, BPTT, and handling Exploding/Vanishing Gradients.
  - : Gained expertise in LSTM, GRU, and Transformer Networks (Attention Mechanism, Multi-head Attention).
  - : Introduction to NLP, Word Embeddings, Contrastive Self-Supervised Learning, BERT, GPT.
  - : Understood Ethics, Bias in AI, and Current Research Directions.

Skills Summary

- **Programming Languages:** Python, C++
- **AI / ML / NLP:** Machine Learning, Deep Learning, Transformers, LLMs, Recommendation Systems, Prompt Engineering
- **Frameworks and Libraries:** TensorFlow, PyTorch, HuggingFace Transformers, OpenVINO, ONNX, mlpack, FastAPI, gRPC
- **Cloud, Containerization, and Deployment:** AWS, Docker, Production Deployment, Scalable Pipelines
- **Databases and Search:** PostgreSQL, SQLite, Vector Databases (FAISS, Pinecone)
- **AI Orchestration / Agents:** LangChain, LangGraph, LlamaIndex, Multi-Agent Systems
- **Other:** Edge AI, System Design, Model Optimization, Full-Stack Development, Real-Time Inference

Research Profile

- **Google Scholar:** 140+ citations **h-index:** 5 **i10-index:** 5
- **Peer-reviewed Publications:** 5
- **Research Areas:** Clinical AI, Speech AI, Clinical NLP, Large Language Models (LLMs), Automatic Speech Recognition (ASR), Graph Neural Networks, Recommendation Systems, Computer Vision.

Publications

[1] **Md Aminul Haque Palash**, Md Abdullah Al Nasim, S. Saha, F. Afrin, R. Mallik, S. Samiappan

Bangla Image Caption Generation through CNN-Transformer based Encoder-Decoder Network

Proceedings of the International Conference on Fourth Industrial Revolution and Beyond (IC4IR), Springer Nature Singapore, 2022. [Link]

[2] **Md Aminul Haque Palash**, Md Abdullah Al Nasim, A. Dhali, F. Afrin

Fine-Grained Image Generation from Bangla Text Description using Attentional Generative Adversarial Network

IEEE International Conference on Robotics, Automation, Artificial Intelligence and Internet-of-Things (RAAICON), 2021. [Link]

[3] **Md Aminul Haque Palash**, A. Khan, K. Islam, Md Abdullah Al Nasim, R. M. Bin Shahjahan

Incongruity Detection between Bangla News Headline and Body Content through Graph Neural Network

Proceedings of the Fourth Industrial Revolution and Beyond (IC4IR), Springer Nature Singapore, 2023. [Link]

[4] R. N. Nandi, A. H. Palash, N. Siddique, M. G. Zilani

Device-Friendly Guava Fruit and Leaf Disease Detection using Deep Learning

International Conference on Machine Intelligence and Emerging Technologies (MIET), Springer Nature Switzerland, 2022. [Link]

[5] M. A. Al Nasim, A. Al Munem, M. Islam, **Md Aminul Haque Palash**, M. M. A. Haque, F. M. Shah

Brain Tumor Segmentation using Enhanced U-Net Model with Empirical Analysis

25th International Conference on Computer and Information Technology (ICCIT), 2022. [Link]