ASSADUZZAMAN MUNNA

AI/ML & Software Engineer — Aspiring AI/ML Specialist

+880 1883543422 iam.ajmunna@gmail.com — assaduzzaman.munna@northsouth.edu
Dhaka, Bangladesh linkedin.com/in/iamajmunna github.com/iam-ajmunna

EDUCATION

North South University (NSU) — Dhaka, Bangladesh
Bachelor of Science in Computer Science and Engineering (Department of ECE)

- **Duration:** 2022 – May 2026
- **CGPA:** 3.75 / 4.00

EXPERIENCE

Junior AI Engineer

The Data Island — April 2026 – Present

- Onboarded as an AI engineering intern, currently establishing data pipelines and integrating enterprise AI frameworks.
- Collaborating with the core engineering team to design, test, and optimize scalable machine learning solutions.

Undergraduate Teaching Assistant (UGA)

North South University (ECE Dept.) — June 2025 – Present

- Facilitate technical sessions and provide mentorship to undergraduate students within the Department of Electrical and Computer Engineering.
- Support faculty in curriculum delivery, grading technical assignments, and fostering student understanding of core engineering principles.

On-the-Job Training (AI Engineering)

Nippon AI Dojo 2025 (Chowa Giken & AI Samurai Japan) — Sep 2025 – Jan 2026

- Selected for a rigorous AI engineering program to develop practical skills in artificial intelligence implementation and model optimization.
- Collaborated in hands-on group projects focusing on real-world AI solutions under the direct mentorship of Japanese industry experts.

SKILLS

- **AI & Machine Learning:** PyTorch, TensorFlow, Hugging Face, SAM, MLOps, Knowledge Distillation. NLP, Supervised & Unsupervised Learning, Model Training & Evaluation, Transformers, Data Preprocessing, Fine-tuning Pre-trained Models.
- **DevOps & Data:** NVIDIA DeepStream, Docker, Linux (Ubuntu), FFmpeg, SQL, Pandas, NumPy.
- **Software Engineering:** React.js, Next.js, Flutter (Dart), RESTful APIs, System Design, Git.
- **Languages:** Python, C++, JavaScript, Dart, Java, LaTeX.

FEATURED PROJECTS

MiST-ER: Micro-emotion Selective Temporal Emotion Recognition — Ongoing — *Deep Learning Architect*

- Developing a lightweight multimodal pipeline (Audio/Video/Text) for micro-emotion classification, achieving 54% accuracy on the MESC dataset.
- Engineered a cross-modal attention mechanism and bidirectional fusion layer to isolate relevant temporal frames and reduce visual noise.
- Optimized architecture for edge device deployment by implementing efficient feature synchronization across modalities.

Industrial Automation System (Foil Stamping) — *System Architect*

- Engineered a deployment-ready automation tool for industrial clients to monitor manufacturing lines.
- Built the backend logic using **Python**/**OpenCV** to handle high-throughput inspection streams with minimal latency.

PUBLICATIONS

Bone Fracture Detection Using Vision Transformers: A Comparative Analysis of the Pooling-based Vision Transformer (PiT) and the Causal Transformer (CaFormer) Models
Atikul Islam Munna, Md. Ibrahim Khalil, **Assaduzzaman Munna**, et al.
2026 IEEE 2nd International Conference on Secure IoT, Assured and Trusted Computing (SATC), Houston, TX, USA, 2026.
DOI: 10.1109/SATC69565.2026.11542322

- Evaluated Vision Transformer architectures (including PiT and CaFormer) against traditional convolutional networks using a dataset of 4,083 annotated X-ray images.
- Highlighted the PiT model's superior generalization, achieving 97.51% testing accuracy in automating fracture diagnosis while identifying critical gaps in training metrics.

Hybrid CNN–MobileViT Model with Knowledge Distillation for Efficient Renal Calculi Detection in CT Images
Assaduzzaman Munna, Mushfika Hossain, Anonto Bormon, Riasat Khan.
Submitted to SPICSCON 2026. (Under Review)

- Engineered a hybrid fusion student model combining MobileViT-Tiny and a CNN, reducing parameters by **18.5x** (1.54M vs 28.6M ConvNeXt-Tiny teacher) for edge deployment.
- Achieved **99.80% test accuracy** while optimizing inference speed, requiring only 9 minutes of training on a resource-constrained NVIDIA T4 GPU.

ACHIEVEMENTS & CERTIFICATIONS

Nippon AI Dojo 2025 (AI Training Program) — *Selected Participant*

- This program was designed to develop practical AI engineering skills through structured lectures on artificial intelligence and hands-on group projects by Chowa Giken and AI Samurai Japan Bangladesh.