

Azizul Haque

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EDUCATION

Stevens Institute of Technology

Master of Engineering in Applied Artificial Intelligence (GPA 4/4)

Hoboken, NJ

Expected Dec. 2026

PROFESSIONAL EXPERIENCE

Interactive Computing Lab, Stevens Institute of Technology

Hoboken, NJ

Research Assistant (Advisor: Jonggi Hong)

May 2025 - Present

- Developed delay-buffered real-time editing pipeline for accessible slide presentations, cutting latency by 35% and demonstrating an innovative mindset.
- Implemented perceptual hashing (pHash) for slide transition detection with 95%+ accuracy.
- Co-authored a poster accepted at ACM ASSETS 2025 on real-time accessibility editing.

Explainable & Controllable AI Lab, Stevens Institute of Technology

Hoboken, NJ

AI Research Assistant (Advisor: Zining Zhu)

Jun. 2025 - Present

- Designed LLM truthfulness evaluation pipeline using TruthfulQA, reducing manual evaluation effort by 40% by automating data validation processes.
- Implemented log-likelihood scoring for multiple-choice evaluation of GPT-2 and GPT-Neo models in Python with PyTorch, enabling consistent data analytics and performance comparison across models.
- Built large-scale batch inference system using Hugging Face Transformers, processing 800+ queries per run.

Next Ventures

Dhaka, Bangladesh

Data Analyst

May 2021 - Oct. 2024

- Analyzed large datasets to support business decisions, improving operational efficiency by 25%.
- Developed and maintained databases, data systems, and analytics tools, reducing processing time by 30%.
- Utilized SQL and Python with Pandas and Matplotlib in Jupyter notebooks to perform statistical analysis and create visualizations for over 10 business reporting pipelines, enabling faster insight generation for stakeholders.

PUBLICATIONS

- **Enhancing Slide Presentation Accessibility for Blind and Low-Vision Audiences Through Delay-Buffered Editing.** ACM DIS 2026. *Best Paper Honorable Mention.*
- **ASPIRE: Accessible Slide Presentation via Intelligent Real-time Editing.** ACM ASSETS 2026 (Poster).
- **Accessible Slide Presentation via Intelligent Real-time Editing.** ACM ASSETS 2025 (Poster).

ACADEMIC PROJECTS

EmoBeat: Temporal-Aware Multi-Label Mental Health Screening | PyTorch, Hugging Face, Pandas 2026

- Built EmoCorpus, a 30,192-post Reddit dataset annotated with seven DSM-5-aligned multi-label conditions, a six-category temporal-arc taxonomy, and a four-stage recovery schema via an LLM-assisted pipeline, reaching 98.5% label agreement on manual review.
- Designed a hierarchical sliding-window transformer (960-token context) with tense-aware attention pooling, arc gating, and a recovery-penalty loss; benchmarked 11 architectures across 5 model families, reaching 83.2% Macro F1 and 94.2% ROC-AUC.
- Identified “trajectory blindness”: every model lost 6.5–10.5 ROC-AUC points on recovery narratives; EmoBeat cut false depression alarms to 12.9%, the lowest of all models ($p < 0.001$ vs. BERT-base).

TruthfulQA Truthfulness Classifier with DistilBERT | PyTorch, Hugging Face, OpenAI API May 2025 - Dec. 2025

- Repurposed TruthfulQA into a balanced 1,580-example supervised dataset and fine-tuned DistilBERT (66M parameters) with the Hugging Face Trainer, achieving 89.5% test accuracy and 0.892 F1, 25.5 points above a shallow word-embedding baseline.
- Built an API-free evaluation pipeline that scores LLM outputs with continuous truthfulness probabilities; applied it to 790 GPT-4o-mini answers (mean score 0.85) and validated against 100 human-annotated answers (Cohen’s $\kappa = 0.86$, Spearman $\rho = 0.78$).

SKILLS

Programming & Tools: Python, Java, SQL, CUDA, Git, AWS (EC2, S3, SageMaker)

Libraries & Frameworks: PyTorch, TensorFlow, Scikit-Learn, NumPy, Pandas, Matplotlib, SciPy, Django, Flask, SQLite, PostgreSQL, Prisma, Hugging Face, Vector Databases, MongoDB, LangChain (Chroma/Pinecone)

Core Concepts: Statistics, Linear Algebra, Operating Systems, Machine Learning, Deep Learning, Distributed Systems, Natural Language Processing

CERTIFICATIONS

- **IBM Machine Learning** – Professional Certificate, IBM
- **IBM AI Engineering** – Professional Certificate, IBM
- **Deep Learning Specialization** – DeepLearning.AI
- **Natural Language Processing Specialization** – DeepLearning.AI
- **Generative AI Engineering with LLMs** – Specialization, IBM
- **Explainable AI (XAI)** – Specialization, Duke University