Sanjana Akhter

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Summary

Computer Science graduate specializing in Deep Learning and Large Language Model (LLM) fine-tuning. Experienced in training transformer-based models using PyTorch and TensorFlow, including LoRA/PEFT-based adaptation and multimodal pipelines. Skilled in model evaluation and ML integration for real-time inference. Seeking an entry-level AI Engineer role.

Education

2021 – Dec 2025 **B.Sc. in Computer Science & Engineering (Completed)**
Ahsanullah University of Science & Technology (AUST)
CGPA: 3.237 / 4.00

2020 **Higher Secondary Certificate (H.S.C.)**
Begum Badrunnessa Government Girls' College, Dhaka
GPA: 5.00 / 5.00

2018 **Secondary School Certificate (S.S.C.)**
Chunkutia Girls High School
GPA: 5.00 / 5.00

Skills

Deep Learning & AI Transformer Models, Large Language Models (LLMs), NLP (Bengali), Model Training, Evaluation (Precision/Recall/F1)

Frameworks & Libraries **PyTorch (Project Experience)**, **TensorFlow (Academic & Model Implementation)**, Hugging Face Transformers, Scikit-learn, Pandas, NumPy

Programming **Python (Primary)**, Java, C, C++, JavaScript, PHP

Deployment & Backend ML model integration with Python APIs, MySQL, MSSQL, Backend development

Tools Git/GitHub, VS Code, Visual Studio, XAMPP, MATLAB, Arduino IDE, Android Studio

Thesis & Projects

AI / Machine Learning Projects

Sentiment Beyond Text: A Multimodal Framework for Movie Review Classification

Multimodal sentiment analysis framework combining review text with metadata for binary and 3-class classification.

- Fine-tuned DeBERTa, RoBERTa, DistilBERT **(PyTorch/Hugging Face)** with late-fusion text-metadata architecture.
- Introduced data-driven "Neutral" class via Point-Biserial Correlation for nuanced 3-class sentiment detection.
- Achieved **91.5% F1 (binary)** and **71.48% F1 (3-class)**, outperforming Logistic Regression, XGBoost, and LightGBM baselines.

Detecting Bengali Hate Speech: A Machine Learning and Transformer-Based Approach

Multimodal hate speech detection framework for Bengali social media text using 30K labeled comments.

- Fine-tuned BanglaBERT, mBERT, XLM-RoBERTa (PyTorch/Hugging Face); benchmarked against SVM, XGBoost, Naive Bayes
- BanglaBERT achieved **90.03% accuracy** and **90.04% F1-score**, outperforming multilingual models and traditional ML baselines

Sentiment Analysis of Bengali Book Reviews for Literary Insights

Transformer-based multiclass sentiment classification achieving **85.69% accuracy**.

Predictive Modeling and Feature Analysis for Customer Churn

Built ensemble ML models (XGBoost, LightGBM) with SMOTE-NC and feature selection to predict telecom churn, achieving **81% accuracy** and actionable retention insights.

Software Development Projects

Serene Music Streaming

Tech Stack: PHP, MySQL

- Built online music streaming system with SQL backend.

Computer Shop

Tech Stack: HTML, C#,CSS

- Built online computer shop.

Language Proficiency

Bangla Native
English Professional Working Proficiency