Ayon Das

Dhaka, Bangladesh ayondas.dhrubo@gmail.com +8801675-996951 Ayon Das Ayon Das

Career Summary

A CSE graduate with a strong foundation in Artificial Intelligence, Machine Learning & Natural Language Processing. Experienced in implementing ML models, applying NLP techniques, working with LLMs & conducting AI research. Demonstrates strong problem-solving skills through ML projects, research & competitive programming. Also experienced in software engineering, with a focus on full-stack web development. Currently seeking an opportunity in the AI field to drive innovation & deliver impactful solutions.

Experience

Software Engineer Intern — RedDot Digital Limited, Dhaka, Bangladesh *April 2025 – Present*

- Improved the reliability and consistency of a large-scale workflow automation platform by resolving critical search-related bugs, leading to more accurate and efficient data retrieval across dynamic user processes.
- Optimized frontend performance in Vue.js by refactoring redundant search triggers, resulting in faster user input handling and significantly reduced client-server communication overhead.
- Refined backend query logic using Laravel by narrowing parameter scopes, minimizing data noise and improving performance while enabling cleaner, more maintainable data-fetching flows.
- Built responsive and modular frontend interfaces using React and Tailwind CSS to ensure consistency across user interaction points.
- Collaborated in Agile sprints to deliver scalable and production-ready modules, emphasizing robust design patterns and cross-functional team coordination throughout the software development lifecycle.

Education

B.Sc. in Computer Science & Engineering — *CGPA: 3.50/4.0* *July 2020 – October 2024*
BRAC University, Dhaka, Bangladesh

Technical Skills

Programming Languages: C, C++, Python, JavaScript, Verilog, PHP
Machine Learning Libraries: TensorFlow, Keras, Scikit-learn, PyTorch, Hugging Face Transformers, Pandas, NumPy
Web Technologies: MySQL, Bootstrap, HTML, CSS, MERN Stack
Tools & Technologies: Git, LaTeX

Research

Undergraduate Thesis: Enhancing Bangla Text Summarization in a Monolingual Setting

Tech Stack:
Programming Languages: Python
Libraries & Frameworks: PyTorch, Hugging Face Transformers, NumPy, Pandas, Scikit-learn, Matplotlib
Data Processing: JSONL format, Tokenization, Padding, Truncation
Tools & Techniques: LangChain, Prompt Engineering
Models Used: BanglaT5, BLOOM, LLaMA 3.1, mBART, mT5, TituLM

Model Evaluation Metrics: ROUGE Score (Precision, Recall, F-Measure), BERTScore, Abstractivity, Compression, Novel n-grams (Unigrams, Bigrams, Trigrams), Redundancy (Unigrams, Bigrams)

Model Fine-tuning & Optimization:

- **Optimizer:** Adafactor
- **Techniques:** Early Stopping, Validation Loss Monitoring

Key Contributions:

- Applied various transformer-based models for Bangla-to-Bangla text summarization on both original & expanded datasets to analyze their adaptability & effectiveness

- Conducted a comparative analysis of models to assess their summarization performance & generalization capabilities, leveraging evaluation metrics such as ROUGE, BERTScore & redundancy analysis

Projects

- **IMDB Movie Review: Tech Stack:** Python, NLP, LSTM, Bidirectional LSTM (GitHub Link)
  - Implemented sentiment analysis on IMDB movie reviews, focusing on model performance & accuracy
  - Compared multiple models including a three-layer shallow model, unidirectional & bidirectional LSTM
  - Applied text preprocessing techniques such as tokenization, padding & truncation to improve model performance
  - Visualized model performance using evaluation metrics to analyze sentiment prediction trends
- **Spam Mail Prediction: Tech Stack:** Python, TfidfVectorizer, Bag of Words, Logistic Regression, KNeighborsClassifier, Support Vector Classifier (SVC) (GitHub Link)
  - Developed a system to predict spam emails using feature extraction techniques
  - Analyzed email data to enhance prediction accuracy using classification models
  - Implemented performance evaluation metrics to assess model accuracy & reliability in spam detection
  - Explored the impact of different vectorization techniques (TfidfVectorizer, CountVectorizer) on model performance
- **Hotel Booking Website: Tech Stack:** JavaScript, HTML, CSS, MERN, Stripe API (GitHub Link)
  - **User Features:** User registration & login, date & room-type filtering, secure booking with Stripe integration & free booking cancellation
  - **Admin Features:** User management, booking oversight & room inventory updates
  - **Real-Time Availability:** Integrated real-time room availability & pricing updates to enhance booking accuracy
  - **Secure Payment Processing:** Ensured secure handling of payment information, enhancing user trust & compliance with industry standards
- **Snake Game: Tech Stack:** Python, OpenGL (GitHub Link)
  - A classic Snake game where players control a snake to consume food, increasing in size & points
  - Integrated obstacles in the game environment, with collisions leading to game over
  - Implemented increasing snake speed as the game progresses, enhancing challenge & engagement

Problem Solving Experience

Active Participation: Actively involved in various online & onsite programming contests
Max Rating: 965 on Codeforces (Ayon Das)

Achievements: Achieved rank in the list of 'Programmer Of The Month' at BRAC University (Rank List)
Problem Solving: Solved 900+ problems on different online judges (Statistics)

Certifications

- **Feature Engineering for Machine Learning in Python** (Certificate Link)
- **Machine Learning with Tree-Based Models in Python** (Certificate Link)
- **Cleaning Data in Python** (Certificate Link)