

MONDOL MRIDUL PROVAKAR

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EDUCATION

Rajshahi University of Engineering & Technology, Rajshahi, Bangladesh 2019-2024
Bachelor of Science in Computer Science and Engineering CGPA: **3.63** out of **4.00**

- **Relevant Coursework:** Applied Statistics & Queuing Theory (Python), Neural Networks & Fuzzy Systems, Data Mining, Artificial Intelligence, Digital Image Processing, Database Systems, Parallel and Distributed Processing, Data Structure (C), Object Oriented Programming (C++, Java), Computer Algorithms, Computer Networks, Network Security, Information System Analysis and Design

PUBLICATIONS

Exploring the Effectiveness of Large Language Models in Financial Question Answering (Undergrad Thesis)
ICCA 2024 - ACM Digital Library (Accepted)

- Evaluated the performance of Llama2-7b and Gemma-7b for financial question-answering using prompt engineering and low-rank adapter-based supervised fine-tuning techniques highlighting their strengths, limitations, and scope for improvement.

Evaluating the Text Summarization Efficiency of Large Language Models
ICICT 2024 - IEEE Xplore (Accepted)

- Investigated the effectiveness of Llama-2 and Gemma in text summarization tasks utilizing zero-shot prompt engineering and supervised fine-tuning techniques revealing that Llama-2 consistently yields higher-quality summaries across multiple evaluation metrics like BLUE, ROUGE-L and BERT Score.

TEST SCORES

Graduate Record Examinations (GRE) September 2024
Overall: 305 — Verbal Reasoning: 148 — Quantitative Reasoning: 157 — Analytical Writing: 3.5

PROJECTS

🌐 github.com/Mondol007

SigPlanet: Real-Time Sign Language Detection
OpenCV, Mediapipe, Long Short Term Memory, Django

- Designed a real-time hand gesture recognition system using Mediapipe for landmark detection and an LSTM-based deep learning model for gesture and letter prediction integrating it with a website for an interactive, accessible user experience.

JFK Airport Visibility Prediction Using Time Series Forecasting
Long Short Term Memory, Gated Recurrent Unit, Tensorflow, Keras

- Developed LSTM and GRU models to forecast hourly visibility at JFK Airport using historical weather data in Univariate and Multivariate analyses and evaluated them with RMSE Score.

Smart Student Guide: Enhancing University Connectivity for Students via Android Application
Java, Android Studio, Firebase, UI Design

- Developed an Android app to strengthen student-university engagement, featuring notice boards, video lectures, eBooks, faculty directories, and dedicated dashboards for admins and students for streamlined access to campus resources and updates.

6 Bit CPU Design
Computer Architecture and Design, Logisim

- A 6-bit CPU based on the following requirements: Word Size: 6 — ALU Operation: XOR, ADD, SHR — Register No: 4 — RAM size: 8 — ISA word size: 18 — CPU instructions: Register Mode, Immediate Mode, JMP, JE

TECHNICAL SKILLS AND INTERESTS

Programming	: Python, C, C++, Java, Javascript, Matlab, Assembly
Research Areas	: Natural Language Processing, Large Language Models, Computer Vision, Cybersecurity
Data Science	: Prompt Engineering, Parameter Efficient Fine-Tuning, Retrieval-Augmented Generation (RAG), DL Architectures (Transformer, CNN, U-Net, GAN), Recommendation Systems, Reinforcement Learning, Stable Diffusion
Frameworks & Technologies	: Pytorch, Huggingface, Langchain, TensorFlow, Keras, OpenCV, Mediapipe, Android Studio, LaTeX, Git
Web & Databases	: HTML, CSS, Django, MySQL, PostgreSQL, Firebase
Interpersonal	: Critical Thinking, Decision-Making, Teamwork, Leadership, Patience, Hardworking

CERTIFICATION

Deep Learning Specialization	Issuing organization: DeepLearning.AI via Coursera	October 2024
Google IT Support Professional Certificate	Issuing organization: Google via Coursera	June 2020

REFERENCES

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