Proloy Karmakar

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⭘ ProloyKarmakar ⬡ Google Scholar

EDUCATION

Bachelor of Science in Computer Science and Engineering   01/2020 – present
Khulna University of Science and Technology 🔗   Khulna, Bangladesh
CGPA: 3.87/4.00 (Till 7th semester out of 8 semesters)
Merit Position: 5th (Out of 121 students)

Higher Secondary School (HSC)   07/2017 – 04/2019
Notre Dame College, Dhaka 🔗   Dhaka, Bangladesh
GPA: 5.00/5.00

RESEARCH INTERESTS

- Machine Learning
- Deep Learning
- Natural Language Processing
- Image processing and Computer Vision

RESEARCH EXPERIENCE

Undergraduate Thesis
Thesis title: Sentiment-Aware Embedding for Bangla Text: Enhancing Cross-Domain Sentiment Analysis with ELMo
This study introduces an ELMo-BERT model for cross-domain sentiment analysis in Bangla, combining ELMo's word-level embeddings with BERT's contextual understanding. The model outperforms traditional approaches, achieving higher accuracy and robustness across diverse Bangla datasets, making it adaptable for real-world applications.
Supervisor: Dr. K. M. Azharul Hasan, Professor, CSE, KUET

In Collaboration
Title: Automated Pregnancy Risk Level Prediction Using Advanced Machine Learning and Deep Learning Algorithm
This study explores machine learning and deep learning models, particularly CNN, for accurate maternal health risk prediction. Leveraging the Maternal Health Risk Data Set highlights AI's potential to enhance maternal care, improve clinical decision-making, and support global healthcare, especially in resource-constrained settings.

ONGOING RESEARCH WORKS

Automated Pregnancy Risk Level Prediction Using Advanced Machine Learning and Deep Learning Algorithm 🔗
This study implements various machine learning and deep learning models to predict pregnancy risk levels, evaluating their performance through accuracy and confusion matrices on a shared dataset. The comparative analysis highlights the models' effectiveness in handling this critical health prediction task.

Exploring AI-driven solutions for breast cancer diagnosis through comprehensive analysis of text and image modalities 🔗
Researching to detect breast cancer by integrating text and image data using various machine learning and deep learning techniques. Aiming to enhance diagnostic accuracy through multimodal analysis for early detection.

COURSE WORK / SKILLS

- Data Structures & Algorithms
- Operating Systems
- Computer Networking
- Database Management System (DBMS)
- MySQL, SQLite
- Artificial Intelligence
- Object-Oriented Programming
- Web Development
- HTML, CSS, JavaScript
- Android App Development
- Graphics Design using Modern OpenGL 3.3

PROJECTS

Cartooning Image 🔗   07/2024 – 09/2024
This image processing and computer vision project enables users to upload images from their local disk and apply one of three cartooning effects: **Color Quantization**, **Comic Book Style**, and **Edge Detection**. Built using Python, OpenCV, and NumPy, the project combines simplicity with creative image transformations.

Checkers Game 🔗   07/2024 – 09/2024
This is my Artificial Intelligence lab project. The project is a Checkers Game built using Pygame and Python, incorporating advanced AI techniques to enhance gameplay. The game integrates genetic algorithms, fuzzy logic analysis, and the minimax algorithm with alpha-beta pruning for intelligent decision-making.

Aalap- a chatting application 🔗   11/2023 – 04/2024
This Android application offers Google login integration, allowing users to chat, upload posts, and view a dynamic news feed. It provides a simple and engaging platform for social interaction.

Cardiac Recorder - A Software 🔗   05/2023 – 07/2023
Developed a mobile app for tracking blood pressure with secure user authentication, OTP verification, and data visualization. Features include recording vital signs, editing/deleting entries, and viewing health history. Conducted unit tests, and UI tests, and added Javadoc documentation.

Furniture Shop App - an iOS applications 🔗   09/2023 – 12/2023
This iOS furniture shop app, built with Swift, enables users to log in, browse and search for furniture, and make secure online payments for a seamless shopping experience.

Digital Multimeter - A Hardware Project 🔗   06/2023 – 08/2023
This digital multimeter project measures and displays the current, voltage, and power consumption of a fan or light on an LCD screen, dynamically adjusting based on the fan's speed.

Hotel Management System - A website using Asp.net 🔗   01/2023 – 04/2023
This hotel management system website developed using ASP.NET 🔗 , streamlines booking, management, and other hotel operations efficiently through a user-friendly interface.

Compiler Design Project 🔗   09/2023 – 12/2023
Developed a custom compiler using Lex and Yacc, capable of handling directives, variable declarations, control structures, and functions with integrated error detection.

Online Train Food Ordering App - An android application 🔗   08/2022 – 12/2022
The "Online Train Food Ordering App" is an Android application that enables users to order food seamlessly while traveling by train, ensuring convenience and timely service.

Hotel Management- A Database Project 🔗   04/2023 – 06/2023
The "Hotel Management" database project, developed using SQL and PL/SQL, streamlines hotel operations by efficiently managing bookings, customer data, and services.

TECHNICAL SKILLS

Programming Languages:	C C++ Python Java Assembly
Data Analysis:	Pytorch Scikit-learn Tensorflow
Data Visualization:	Matplotlib Excel
Web and Mobile Development:	Android Swift ASP.net 🔗 HTML CSS Javascript

Database Management:	MySQL	PL/SQL
Operating System:	Windows	Linux
Version Control:	Git	
Hands-on:	LaTeX Cisco Packet Tracer OpenCV OpenGL	
Designing Software:	AutoCAD (2D only)	

SCHOLARSHIPS AND AWARDS

Deans's Award
3 consecutive awards
The Dean's Award is given to students having a CGPA of 3.75 or above in an academic year.

Education Board Scholarships
Barisal Board
- General grade scholarship in the SSC exam given by the Board of Intermediate & Secondary Education, Barisal

Online Course Certificate
- "Basics of Python" by Uniathena
- "Art of Problem Definition" by Passport to Earning Bangladesh.
- Intra Kuet Programming Contest Certificate by the Department of CSE, KUET.

Conference Certificates
- Paper Presentation certificate at CS BDC SYMPOSIUM 2024 at Jagannath University

Voluntary Works
- Founder of The United Club (TUC), a social development non-profit voluntary organization
- President of The United Club (TUC)
- Executive Member at BD Clean
- Member at Dream-Voluntary Blood Donation Society of KUET

Internship
- Encryptix, IT Services, and IT Consulting, New Delhi, Delhi, India

CONTEST / PROGRAMMING CAREER

- **Problem Solved:** 900+ in Codeforces, vudge, URI, UVA, and other online judges.
- Participate in different online and onsite programming contests.

LANGUAGES

English ● ● ● ● ○   Bengali ● ● ● ● ●

REFERENCES

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