ABIR SAHA

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About Me

Curious and driven Computer Science undergraduate with strong skills in data structures, algorithms, and problem-solving.
Passionate about building real-world solutions by combining AI with intuitive web interfaces.
Experienced in backend logic and intelligent systems, from recommendation engines to real-time computer vision.
Comfortable with both code and concepts, and eager to contribute to impactful software in performance-focused, innovation-driven environments.

Education

RCC INSTITUTE OF INFORMATION TECHNOLOGY   **Kolkata, West Bengal, India**
Bachelor of Technology, Major in Computer Science and Engineering   Sep 2022 - June 2026
CGPA: 7.8/10
Relevant Coursework: Software Engineering, Operating Systems, DSA, DAA, Discrete Mathematics, Artificial Intelligence, Pattern Recognition, Image Processing, DBMS, Computer Architecture and Organisation, Computer Networks, JAVA, Python and C programming.

INDIAN INSTITUTE OF TECHNOLOGY MADRAS   **Chennai, Tamil Nadu, India**
Bachelor of Science (B.Sc.), Data Science and Application   Sep 2023 – Sep 2027
CGPA: 8.4/10
Relevant Coursework: Programming in Python, Statistics for Data Science, Computational Thinking, Mathematics, Programming in Java, Machine Learning, DBMS, Application Development

Experience

Research Intern
IEEE EMBS, IIT Kharagpur
Jul 2025 – Present

- Learning EEG signal processing and P300 classification.
- Supporting research on brain-computer interfaces using ML methods.

Software Developer Intern
Informaticae Technology Private Limited
Jul 2025 – Present

- Contributing to full-stack projects.
- Involved in feature development, debugging, and learning production workflows.

Research Intern

Ideas TIH @Indian Statistical Institute (ISI), Kolkata

May 2025 – July 2025

- Collaborated in a team of 6 on ML-based earthquake susceptibility prediction using geospatial data.
- Engineered spatial features like fault density and hub distance using QGIS and heatmap analysis.
- Developed and evaluated models (Random Forest, SVR, MLP, LSTM) for latitude, longitude, and magnitude prediction of future occurring earthquakes.
- Developed a Streamlit app for live prediction and visualization
- Contributed to Physics-Informed Neural Networks (PINNs).

EMPOWER AI: TRANSFORMATIVE LEARNING – CSR INITIATIVE OF MICROSOFT & SAP

Edunet Foundation | AICTE | Tech Saksham

Undergraduate Intern   Nov 2024 – Dec 2024

- Developed and integrated real-time face detection and recognition modules using OpenCV.
- Pre-processed image data using PIL and NumPy and managed records with MySQL.
- Built an interactive GUI using Tkinter, ensuring a user-friendly experience.
- Achieved an accuracy of above 90% in detecting and recognizing faces.

Artificial Intelligence and Data Analytics Internship – Green Skills Program

Edunet Foundation | AICTE | Shell India – Skills4Future Initiative

Undergraduate Intern   Apr 2025 – May 2025

- Developed a Plant Disease Detection System using CNN to identify diseases from leaf images.
- Collected and pre-processed agricultural image datasets.
- Built a clean, user-friendly interface to upload images and display disease predictions in real time.
- Achieved accuracy of 88% in just five epochs.

Projects

- **Bhukamp – Earthquake Analysis and Prediction**

  Project: https://bhukamp-prajnyan.streamlit.app/
- **Traffic Surveillance using OpenCV**

      Implemented real-time lane detection and tracking using OpenCV and NumPy.

  Project: Traffic Anomaly Detection and Reporting
- **KnowBuy – E-Commerce System**

  An AI-driven multi-agent system for automating product recommendations using browsing behavior, purchase history, sentiment scores, and product similarity to predict shopping interests.

  Project: https://github.com/Abir2307/KnowBuy   Website: https://know-buy.onrender.com/
- **Face Recognition Attendance System**

  Project: https://github.com/Abir2307/Attendance-Management-System-using-Face-Recognition
- **Website for finding affordable Paying guest houses**

  Project: https://github.com/Abir2307/WEB_DEV_Project_PGLIFE

Skills

Languages: Python, Java, JavaScript, SQL, C, HTML/CSS, PHP
Technologies/Frameworks: Pandas, NumPy, PyTorch, ReactJS, TensorFlow, Flask, Django,Vuejs, Nestjs.
Tools & Libraries: OpenCV, SciKitLearn, Matplotlib, Git, Tkinter, PIL, SQLite, Streamlit, GCP.

Online Courses and Certificates

- **NPTEL ML:** Among top 9 out of ~5000 candidates (Sep 2023).
- **NPTEL Software Engineering:** Topper with 75% score out of 5012 certified (Nov 2024).
- **NPTEL AI – Knowledge Representation and Reasoning:** Secured *Elite* tag with 62% (May 2025).
- **Internshala Web Development:** Completed 8-week training with 79% final score.
- **Google Cloud: GenAI Intensive Capstone (2025)**
  Completed 5-day GenAI Capstone by Google Cloud, gaining hands-on experience in prompt engineering, Vertex AI, and multi-modal applications.

Accomplishments

- Gold medallist in International Maths Wizard Olympiad achieved 40 Olympiad rank, secured 2nd place in West Bengal and procured 1 class rank, conducted by CPS Olympiads in 2017.
- Silver medallist in International Science Supremo Olympiad achieved 39 Olympiad rank, secured 3rd place in West Bengal and procured 2 class rank, conducted by CPS Olympiads in 2017.
- Cleared Level 1 MCQ Test of Flipkart GRID 6.0 – Robotics Challenge.
- Participated in Codequezt # 21 Coding Challenge, ranked 143 out of 26445 enrolled participants.
- Participated in Google Cloud Arcade, completing gamified labs on Vertex AI, BigQuery, GKE, and GenAI tools, earning badges and hands-on cloud experience.