Tamal Majumdar

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EDUCATION

B. P. Poddar Institute of Management & Technology   Kolkata, India

Bachelor of Technology(B.Tech) in Information Technology, GPA(till 6th sem): 7.52/10   **October 2022 – Present**

CHITTARANJAN HIGH SCHOOL(ENG MEDIUM)   Kolkata, India
CHITTARANJAN DESHBANDHU VIDYALAYA(BENG MEDIUM)

Grade XII (WBCHSE); Score: 88.2%
Grade X (WBBSE); Score: 88.71%   **Jan 2014 – March 2021**

PROFESSIONAL SUMMARY

Software Developer skilled in **Python, SQL, OOP, and SDLC** with hands-on experience in building **data analytics**, **web applications**, and **machine learning (ML) solutions**. Familiar with **Agile methodology**, **version control**, and basics of **AWS cloud services**. Strong **problem-solving** and **communication skills** with proven ability to **collaborate in teams** and deliver **scalable, stakeholder-focused solutions**.

SKILLS SUMMARY

- **Languages:** Python, SQL
- **Frameworks & Tools:** Streamlit, Git, GitHub, Jupyter Notebook
- **Libraries:** Pandas, NumPy, Matplotlib, Seaborn, Plotly , Scikit-learn
- **Concepts:** Object-Oriented Programming (OOP), Data Structures & Algorithms (DSA), Software Development Life Cycle (SDLC), Agile Methodology, Software Testing & Debugging (Unit Testing, Error Handling), Modular Design, Technical Documentation
- **Data & AI:** Machine Learning (Regression, Classification), Model Evaluation & Deployment, Natural Language Processing (NLP), Exploratory Data Analysis (EDA), Data Cleaning, Visualization & Insights
- **Cloud:** Application deployment on Streamlit Cloud; introductory knowledge of AWS.

PROJECTS

Indian Railways EDA & Visualization (Data Analytics) | Link | Code   **September 2025**

- o Designed and developed a **modular data analytics platform** using Pandas, NumPy, Plotly, and Folium, applying **SDLC principles** for maintainability and scalability.
- o Conducted **exploratory data analysis (EDA)**, statistical profiling, and feature correlation on stations, trains, and schedules datasets.
- o Implemented **geospatial analysis** (station heatmaps, route mapping, distance calculator) and created **interactive dashboards** for schedule and zone insights.
- o Automated generation of **PDF and DOCX reports**, improving reporting efficiency and stakeholder communication.
- o Deployed a **Streamlit web app** enabling real-time exploration, dataset downloads, and interactive data visualizations.

AI Web Scrapper (Automated Data Extraction Tool) | Link | Code   **August 2025**

- o Engineered a **Streamlit-based web scraping application** with real-time URL validation, proxy authentication, and automated CAPTCHA handling.
- o Built **reusable parsing and content-cleaning modules** with BeautifulSoup, enabling structured text extraction from diverse websites.
- o Integrated **Google Gemini LLM via LangChain** to support intelligent, query-driven information retrieval.
- o Conducted **performance optimization and debugging**, introducing chunk-based DOM splitting that reduced response time by ~40%.
- o Delivered a **production-ready solution** with interactive dashboards, DOM content exploration, and user-defined parsing instructions.

Heart Disease Prediction System | Link | Code   **August 2025**

- o Developed a **machine learning-powered application** using Logistic Regression with optimized hyperparameters for medical risk prediction.
- o Applied **unit testing and debugging** to ensure robust and maintainable predictive pipelines.
- o Built a modular **Streamlit interface** with navigation (Home, Predict, About), enabling real-time predictions from user input.
- o Conducted **EDA and visualization** to highlight dataset distributions, class imbalance, and feature importance.
- o Packaged and deployed the solution on **Streamlit Cloud**, ensuring high availability and accessibility.

CO-CURRICULARS

- **Web Developer**, TechStorm'24 (Annual College TechFest) – March 2024
- **Volunteer Lead**, TechStorm'24 (Annual College TechFest) – March 2024
- **Winner**, Tech Enquesta 2.23 (IEEE Intra-college Technical Quiz) – Nov 2024 (*demonstrated rapid analytical problem-solving among 100+ peers*)
- **Ranked 26/250+**, CodeBee Inter-college Coding Competition (BPPIMT) – 2024 (*showcased strong algorithmic and programming skills*)