

Swapnendu Banik

Kolkata, India — +91-9674191489 — reckerdev@gmail.com — [GitHub](#) — [LinkedIn](#)

Summary

Innovative and impact-driven Computer Science undergraduate with a strong foundation in AI, IoT, and NLP. Experienced in building end-to-end ML/NLP systems using tools like Hugging Face, PyTorch, and MLFlow. Made 5+ real-world projects spanning healthcare, cybersecurity, and assistive technology, with deployments via FastAPI and Streamlit. Skilled in both technical problem-solving and agile project execution, with demonstrated success in competitive hackathons and internships.

Education

VIT Bhopal University, B.Tech (CSE)	CGPA: 8.67
DPS Ruby Park, Class 12 CBSE	86%
CPS Kalikapur, Class 10 ICSE	94%

Skills

Programming Languages: Python, SQL, Java, C++, Bash	Generative AI: LangGraph, Hugging Face Transformers, RAG Pipelines, Vector Databases (Chroma)
ML/DL: SkLearn, PyTorch, Transformers, Feature Engineering, Hyperparameter Tuning, Early Stop	MLOps & Deployment: DagsHub, MLflow, Git/GitHub, CI/CD, Docker
Data Science: Pandas, NumPy, Matplotlib, Seaborn, EDA, Statistics, Data Cleaning, Imputation, Dimensionality Reduction (PCA)	Web & App Integration: FastAPI, Streamlit, Gradio, REST APIs
Computer Vision: OpenCV, PyTorch-based CNNs, Image Augmentation, Custom Dataset Training	Soft Skills: Agile Development, Technical Communication, Critical Thinking, Project Management

Experience

Machine Learning Intern – PreProdCorp Jan 2024 – Feb 2024
Offered placement after securing 4th place in Buildathon 2024. Worked on agile-based ML pipelines involving Apache Kafka, Linux/WSL, and PySpark for data preprocessing. Built tree-based models and a Deep Q-Network for CartPole using reinforcement learning. Contributed to MLFlow/DVC-based full-stack workflows, and explored NLP via Hugging Face (DistilBERT, RoBERTa, GPT-2, T5). Also led sentiment analysis on Amazon Reviews with TF-IDF, Word2Vec, and fine-tuned models. Codebases: [Internship Work](#) — [Exploring NLP \[Certificate\]](#).

Projects

- **GenAI-Based Mini-CDSS:** Developed a Clinical Decision Support System integrating LLMs with Tavily Web Search for preliminary diagnoses and evidence-based practices. Utilized Streamlit and FastAPI for real-time medical interactions. [\[GitHub\]](#).
- **IoT-Based Network Attack Predictor:** An ANN-based intrusion detection model for IoT healthcare traffic. Achieved 97.6% precision and 87.5% F1-score for non-attack class; deployed with FastAPI and Streamlit. [\[GitHub\]](#)
- **Alzheimer Detection:** Implemented a TinyVGG16-based CNN to classify MRI scans into Alzheimer's stages with 95.47% accuracy, 95.63% precision, and 95.47% recall. On a Streamlit app for user-friendly inference. [\[GitHub\]](#).
- **Sign Language Detection Prototype:** Built a prototype to recognize sign language gestures using ML. Currently under re-evaluation for performance improvements. [\[GitHub\]](#).
- **Upcoming Project – IoT-Based Dynamic Attendance Management System:** Designing a system to manage attendance dynamically based on time slots, leveraging IoT technologies for enhanced accuracy and efficiency.

Achievements

- Secured 4th place in Buildathon 2024 at VIT Bhopal; offered internship at PreProdCorp [\[Certificate\]](#)
- Secured 6th place out of 500+ teams in Johns Hopkins University HealthHack 2025 with VIT Bhopal [\[Certificate\]](#)