

SANDEEP BALABANTARAY

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Education

Vellore Institute of Technology

Bachelor's in Computer Science and Engineering (B.Tech)

CGPA : 8.58

2022 - 2026

Experience

AlgoUniversity (YC S21)

May 2025 - August 2025

SWE Co-Op Intern

Remote

- Architected Codeblaze, an online judge platform for 500+ active users, featuring a self-built Docker-based compiler and a React + Tailwind interface with custom dashboards and an admin console for live coding.
- Scaled backend in Django/DRF with Docker-sandboxed judging and SQLite, handling 10K+ submissions/day.
- Deployed AWS EC2 with Nginx & SSL, integrating Docker workers & Vercel frontend, ensuring 99.9% uptime
- Built Ember, an AI coding assistant using Google Gemini for code analysis, test evaluation, and intelligent hints
- [Deployment Link](#) [Video Link](#)

Madhya Pradesh Police

Dec 2024 - March 2025

Frontend Web Developer & Database Manager Intern

Bhopal, Madhya Pradesh

- Digitalized 50+ manual police forms into a web system using React and Flask, reducing paperwork by 70%.
- Crafted a user-friendly interface reducing form processing time by 50% and enabling seamless data analysis and entry.
- Automated database operations and Excel extraction workflows, cutting data retrieval time by 60%.

Projects : <https://github.com/AxilBlaze>

Walmart AI Shopping Assistant | Machine Learning, Flask, GenAI (Gemini)

June 2025 - July 2025

- Designed a recommendation microservice with Apriori & FP-Growth, improving bundle suggestion accuracy by 20% and boosting add-to-cart conversion by 15% in trials prompting users to add more items and hence boosting sales.
- Integrated React frontend and Chrome Extension with a Flask + Gemini 2.0 (Flash) API and OCR for grocery list parsing, achieving 95%+ accuracy across text, voice, and image inputs with <2s latency.
- [Link](#) [Video Link](#)

Nexus AI Gallery | DeepFace, GenAI(Gemini, Google ADK), Qdrant, ChromaDB

Feb 2024 - May 2024

- Architected a multi-agent visual search pipeline integrating RetinaFace (99% accuracy) for detection, Facenet512 for biometric encoding, enriched with LLM semantic scene descriptions, and indexed in Qdrant with 768-dim embeddings.
- Implemented a High-Recall, High-Precision search engine by cascading dense vector retrieval for broad matching with a Gemini-powered agentic verification step to filter false positives based on strict semantic nuances.
- [Video Link](#) [GitHub Link](#)

Medipred | Machine Learning, Flask

Aug 2023 - Dec 2023

- Aggregated datasets from multiple structured and unstructured datasets and preprocessed 10M+ raw data records.
- Enhanced ML performance by 25% through handling missing values, outliers, and robust normalization techniques.
- Trained & validated ML models achieving 90%+ accuracy across 5,000+ diverse healthcare records of multiple diseases
- [Video Link](#) [GitHub Link](#)

Technical Skills

Programming Languages: Python, C++, HTML, CSS, Javascript

Frameworks: Flask, Django, Reactjs, Tailwind

Databases: MySQL, PostgreSQL, MongoDB, QdrantDB, ChromaDB

AI & Machine Learning: Scikit-Learn, TensorFlow, Keras, PyTorch, Hugging Face Transformers, LangChain, LangFlow

Specialization: NLP, DL, Computer Vision, Deep Learning, GenAI, Agentic AI System, Data Visualization

Achievements

- **AlgoUniversity:** Earned 2nd place out of 1000+ students in a programming camp focused on advanced graph theory
- **Coursera:** Stanford University & DeepLearning.AI Machine Learning Specialization.
- **Coding Profile** : [LeetCode](#) (Knight, Rating: 1889, Top 5% globally) — [CodeForces](#) (Specialist, Rating: 1201)
- **Meta HackerCup (AI Track)** : Finalist in Meta's ongoing official AI-focused coding competition.

Co-Curricular

Amdocs Gen AI Hackathon | Semi-Finalist

Nov 2024 - Dec 2024

- Crafted a GenAI tutor using an ensemble of Mistral, GPT-1, and LLaMA with chain-of-thought reasoning, selected from 500+ students for its innovative solution.

Smart India Hackathon | Qualified University Finals

Nov 2023 - Dec 2023

- Advanced through all internal rounds, leading ML model deployment for a healthcare project, ranking among top 20% of 200+ teams.