SANDEEP BALABANTARAY

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Education

VIT Bhopal University | **CGPA : 8.58**
Bachelor's in Computer Science and Engineering (B.Tech) | *2022 - 2026*

Experience

AlgoUniversity (YC S21) | **May 2025 - Present**
SWE Co-Op Intern | *Remote*
- Architected Codeblaze, a production-ready online judge platform enabling live coding practice. **Link** | **Video**
- Implemented the frontend in React.js & Tailwind with problem catalogs, compiler, dashboards, and admin console.
- Orchestrated the backend in Django/DRF with Docker-sandboxed judging, scaling PostgreSQL/MySQL with SQLite.
- Configured AWS EC2 with Nginx & SSL, integrating Docker workers and Vercel-hosted frontend.
- Built Ember, an AI-powered coding assistant using Google Gemini that analyzes code, provides test case evaluation, giving intelligent hints and solves all doubts.

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%.
- Developed a user-friendly interface reducing form processing time by 50% and enabling seamless data extraction.
- 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 using a hybrid of Apriori & FP-Growth to suggest item bundles.
- Integrated React frontend, backend, and Chrome Extension APIs to streamline Walmart add-to-cart flows.
- Launched a Flask API with Gemini 2.0 (Flash) and OCR for grocery list parsing & automation, supporting text, voice, and image inputs.
- **Deployed Link** | **Video**

Course Finder | *Machine Learning, Flask, NLTK, HTML, CSS, JS* | *Feb 2024 – May 2024*
- Implemented course recommendations via Singular Value Decomposition (SVD) for personalization.
- This platform predicts suitable courses for each individual, providing a personalized and efficient learning experience.
- Built a sentiment analysis pipeline that analyzed 2,000+ reviews for adaptive learning, yielding valuable insights into student satisfaction, ultimately guiding curriculum adjustments and enhancing the overall educational experience.
- **Deployed 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** | **Github Link**

Technical Skills

Programming Languages: Python, C++, HTML, CSS, Javascript
Frameworks: Flask, Django, Reactjs, Tailwind
Databases: MySQL, PostgreSQL, MongoDB, SQLite
Machine Learning: Scikit-Learn, TensorFlow, Keras, PyTorch, Hugging Face Transformers, LangChain, LangFlow
Specialization: NLP, Computer Vision, Recommendation Systems, Deep Learning, GenAI, Agentic AI System

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.

Co-Curricular

Amdocs Gen AI Hackathon | *Semi-Finalist* | **Nov 2024 - Dec 2024**
- Crafted a generative AI tutor powered by a custom ensemble of Mistral, GPT-1, and LLaMA models via Hugging Face. It uses a chain-of-thought-style reasoning system to intelligently resolve student queries.
- Got selected from a competitive pool of over 500+ students for developing an innovative GenAI-driven solution.

Smart India Hackathon | *Qualified University Finals* | **Nov 2023 - Dec 2023**
- Advanced through all internal rounds, placing among top teams out of 200+ participants with our AI driven solution.
- Led machine learning development for hackathon project, designing and deploying predictive models that secured qualification to national round