

# PURNIMA SAHOO

Bhopal, Madhya Pradesh

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## Education

**Vellore Institute of Technology**

**2022 – 2026**

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

*CGPA : 8.50*

## Experience

**SWE Co-Op Intern | AlgoUniversity (YC S21)**

*July 2025 – Sept 2025*

- Engineered an Online Judge web application for users to write, compile, and execute code with test case verdicts.
- Integrated SQLite, with Django ORM providing efficient database queries and data validation between frontend forms and backend models. Implemented Docker for containerization and sandboxing, ensuring security and isolation.
- Deployed on AWS EC2 with Nginx reverse proxy and SSL termination for production.
- Integrated Google's Gemini AI model to provide intelligent code analysis, supporting 3 programming languages with comprehensive test case evaluation, achieving an average code submission latency of 5 seconds.
- [Deployed Link](#)      [GitHub Link](#)

## Projects

**FaceKey | Python, CNN, Numpy, scikit-learn, Pickle**

*Dec 2024 – Jan 2025*

- Developed advanced machine learning models using TensorFlow and OpenCV for user authentication, enhancing login.
- Implemented blink detection using dlib's 68-point facial landmark predictor, calculating eye aspect ratio (horizontal/vertical eye dimensions) with threshold 5.7.
- Face recognition model achieved 90.91% validation accuracy on test set.
- [GitHub Link](#)

**Auto ML Solution | Python, Joblib, Pillow, Seaborn, Streamlit**

*Mar 2023 – Nov 2023*

- Engineered an Automate Machine Learning platform (AutoML Solution) to eliminate manual algorithm rewriting, reducing model development time by 75% and streamlining machine learning workflows for production environments.
- Built preprocessing pipeline using Column Transformer and scikit-learn Pipeline classes, included PCA dimensionality reduction and created interactive visualization dashboard with Plotly/Seaborn for real-time model monitoring.
- Orchestrated 15+ algorithms, handling real-world data challenges, providing production ready model outputs.
- [Deployed Link](#)      [GitHub Link](#)

## Technical Skills

**Machine Learning & AI:** Machine Learning, Computer Vision, Image Processing, Model Training & Evaluation

**Backend & Deployment:** Django (Python) Model Integration, SQLite, MySQL

**Programming Languages:** Python, C/C++

**Dev Tools & Platforms:** Git, GitHub, Streamlit

## Extracurricular Activities

**Research and Development Lead | Linux Club, Cyber Warriors Club**

*Jan 2024 – Dec 2024*

- Spearheaded cross-functional R&D initiatives across 2+ diverse teams, demonstrating strategic leadership.
- Reviewed weekly performance reports and audience demographics to plan monthly content calendars, while conducting bi-weekly team meetings to track project milestones and resolve bottlenecks.

**Smart India Hackathon | University Qualified Finalist**

*Nov 2023 – Dec 2023*

- Built a fraudulent profile detection system for social media, securing pre-grand finale selection from 500+ teams.
- Collaborated effectively with a team of 4 members, applied robust machine learning algorithms that significantly improved detection accuracy and system performance.

## Achievements

- Meta HackerCup (AI Track):** Secured Rank 116 globally in Meta's official AI-focused coding competition.
- Programming:** Achieved an overall rating of 1500+ on competitive coding platforms.
- Coding Ninjas:** Recognized as a Top Performer in the "Introduction to C++" course with a 94% score.
- IBM AI Engineering Specialization (Coursera):** Achieved an overall score of 88.02% in the certification.