

PURNIMA SAHOO

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Education

VIT Bhopal University

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

2022 – 2026

CGPA : 8.48

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.
- Created responsive frontend using HTML5, CSS3, and JavaScript for optimal and seamless user experience.
- 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, configuring Nginx to serve static files, handle SSL certificates, and proxy requests to Django backend.
- 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.
- Learned System Design from Senior Engineers from Google, Apple, Grab Singapore and Microsoft.
- [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.
- Collected data via OpenCV webcam capture with UUID-based unique filenames. Built two models: Siamese Network using TensorFlow Functional API with embedding layers and L1 distance layer, CNN Classifier using Sequential API.
- 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

Programming Languages: C/C++, Python

Tools & Platforms: Git, GitHub, Streamlit, Google Docs, Notion, PowerPoint, Canva

Web Development: Django, Sqlite, MySQL, APIs

Extracurricular Activities

Research and Development Lead | Linux Club, Cyber Warriors Club

Jan 2024 – Dec 2024

- Led teams through project planning, requirement discussions, and milestone reviews.
- Facilitated knowledge-sharing sessions and guided juniors in understanding project expectations.
- Reviewed progress, identified delays, and communicated corrective steps.

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.