PURNIMA SAHOO

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Education

VIT Bhopal University **2022 − 2026**
Bachelor's in Computer Science and Engineering (B.Tech) *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 & Web Development: C/C++, Python, Django, Sqlite, MySQL, APIs

Tools & Platforms: Git, GitHub, Streamlit, Railways

Additional: Hugging face Transformers, Scikit-Learn, Pytorch, TensorFlow, Keras, Computer Vision

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.