Sakshi Tiwari

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Education

Visvesvaraya Technological University Bangalore, India
Bachelor of Engineering in Computer Science (GPA: 9.25/10) *2022 – 2026*

Technical Coursework:
Computer Network, Data Structures & Algorithms, Machine Learning, Operating Systems, DBMS, Artificial Intelligence, Web Development, Big Data Analytics, Cloud Computing

Experience

Undergraduate Research Assistant January 2024 – April 2024
MS Engineering college *Bangalore*

- Implemented an AI-powered heart rate monitoring framework to analyze athlete performance and predict optimal workout intensity.
- Explored ways to visualize GitHub collaboration in a classroom setting

SBE Tech – Web Development Intern May 2025 – June 2025
Remote

- Supported the development of responsive client websites using **React**-based frontend components.
- Assisted with basic **database management tasks**, ensuring seamless data flow and integration.

Projects

Real-Time Open Vocabulary Object Detection App | *Python, PyTorch, YOLOv8, OpenCV, CLIP, NumPy*

- Developed a real-time object detection application integrating YOLOv8 with CLIP for open-vocabulary classification across 500+ labels.
- Optimized inference pipeline (ROI filtering, temporal smoothing) to achieve 25 FPS on CPU.
- Designed GUI-based camera capture with fallback modes for real-time inference 10 FPS.

Minimal Neural Radiance Field System | *REST API (Flask), Three.js, Docker, Python, PyTorch*

- Developed end-to-end system to reconstruct 3D scenes from 2D images for real-time (30–60 FPS) WebGL visualization.
- Implemented REST API backend with dataset-to-training pipeline using ffmpeg and COLMAP.
- Integrated CI/CD with GitHub for automated testing and deployment.
- Collaborated with Minecraft server administrators to suggest features and get feedback about the plugin

Real-Time Crypto Data Pipeline | *Python, Kafka/Redpanda, Docker, PostgreSQL*

- Designed a scalable networked data pipeline ingesting 5K+ trade events/sec from WebSocket streams.
- Engineered data transformation layer generating OHLCV candles stored in PostgreSQL for analytics.
- Containerized full stack using Docker Compose ensuring consistency, low latency, and fault tolerance.

Technical Skills

Languages: Python, Java, C, C++, JavaScript, HTML/CSS, SQL
Developer Tools: Git, Docker, Google Cloud Platform, VS Code, AWS, Visual Studio, PyCharm, IntelliJ, Eclipse
Libraries: PyTorch, TensorFlow, OpenCV, Scikit-learn, Pandas, Matplotlib

Certifications

Introduction to Generative AI: Google
Big Data 101: IBM

Extracurricular

- **Participated in Yandex cup** 2025
- **Tech Fest - Organizing Member** 2023–2024
- **NSS Volunteer** 2022- 2024