

Summary

Computer Science undergraduate with a keen interest in Distributed Systems ,AI and System Design. Experienced in developing high-quality, scalable code with good test coverage for platforms ranging from GPU-accelerated applications to high-throughput data pipelines.Passionate about bridging novel AI research with real-world deployment through scalable data pipelines and intelligent systems.

Education

PES University, Bengaluru, India 2022 – 2026
B.Tech in Computer Science & Engineering CGPA: 8.6/10.0 — **CNR Rao Merit Scholarship (Top 20%)**
Relevant Coursework: OS, DSA, ML, Computer Networks, Heterogeneous Parallelism, Big Data , LLM

Technical Skills

Languages: Python, C++, C, Java
ML and Data Analytics: PyTorch, TensorFlow, scikit-learn , LLM
Systems & Pipelines: Kafka , Spark, Hadoop , CUDA
Tools & DevOps: Docker, Git, Google Cloud Run, Vercel

Key Projects

Ray Tracing Optimization with Heterogeneous Parallelism (*Tech: C++, CUDA, OpenMP, BVH*)

- Engineered a high-performance Ray Tracer in C++/CUDA, optimizing rendering speed by **17,000x** through the implementation of a Bounding Volume Hierarchy (BVH) structure.
- Demonstrated expertise in heterogeneous parallel programming and performance tuning for critical system-level efficiency on CPU+GPU architectures.

LoRaWAN Train Tracking & Collision Detection (*Tech: Python, Kafka, Redis, Flink, PyTorch (LSTM)*)

- A real-time telemetry and alerting pipeline using Kafka, Flink, and Redis with sub-800ms end-to-end latency, secured via X25519 key exchange and AES-GCM encryption. The fully integrated system is hosted for production grade reliability.
- Developed an LSTM model in PyTorch for high-accuracy, low-latency collision detection and real-time network monitoring.

Distributed Logging & Monitoring System (*Tech: Kafka, Fluentd, Elasticsearch, Kibana, Docker*)

- Designed and deployed a scalable, high-throughput log aggregation pipeline using Kafka and ELK stack, ensuring system resilience under heavy workloads.
- Ensured deployment readiness by containerizing the entire distributed architecture using Docker, simulating production environment.

AI-Powered Placement Portal (IMCL 2025 Publication) (*Tech: Go, React/TypeScript, PostgreSQL, Mistral LLM, Ollama*)

- Developed a full-stack tool-augmented agent system (Go/React) for holistic student evaluation, integrating data from GitHub, LeetCode, resumes, and mentor feedback.
- Built the robust backend using Go (Gorilla Mux, GORM) and PostgreSQL, hosting a locally deployed Mistral LLM via Ollama for candidate scoring and chatbot queries.

ClutterFlow: LLM-Powered Document Classification System (*Tech: Python/FastAPI, React.js, Gemini LLM, Supabase, Docker*)

- Developed a full-stack platform using a FastAPI backend and React frontend to automatically classify and summarize unstructured notes.
- Integrated an OCR pipeline with the Gemini LLM for topic classification and deployed services using Docker, Google Cloud Run, and Vercel.

Experience

Teaching Assistant — Python Programming, PES University Fall 2025

- Mentored 60+ undergraduates, leading review sessions focused on debugging and algorithmic problem-solving.

Website Designer — Infobells Jun – Aug 2024

- Designed and deployed a responsive website (WordPress + Hostinger), improving public visibility and user engagement.

Publications & Awards

- Research Publication (International Machine Learning Conference 2025):** AI-Powered Placement Portal.
- Winner:** InGenious 11.0 Hackathon – Disaster Management Robot (2023).

Extracurriculars

- Core Member, Parallax **GAME DEVELOPMENT AR/VR Club** (Game Development and Graphics)