




SHIVARTH RAI

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Experience

Kenvue

May 2025 – July 2025

Machine Learning Intern

- Architected a scalable, end-to-end machine learning pipeline for cloud cost forecasting, encompassing data transformation, feature engineering, model training, and inference with a focus on explainability and fault tolerance.
- Remediated significant data quality issues within a 400M+ record cloud cost database through comprehensive exploratory data analysis (EDA) and data cleansing techniques.
- Implemented a robust MLOps framework by integrating MLFlow for model lifecycle management and Grafana for real-time observability, deploying the containerized application on an Azure VM with Docker.

Samsung R&D Institute Bangalore

September 2024 – March 2025

Project Intern, Samsung PRISM Program

- Developed a custom quantization methodology for image segmentation by adapting the BinaryConnect framework with a learnable scaling factor, achieving a 17:1 model compression ratio (reducing size from 591MB to 34MB) with a minimal 1.2% accuracy degradation on the CityScapes benchmark.
- Benchmarked the custom model's performance against multiple state-of-the-art quantization techniques (LSQ, DoReFa-Net, PACT) on the CityScapes and Pascal VOC datasets to validate its effectiveness.

Research

Hero-Mamba: Mamba-based Dual Domain Learning for Underwater Image Enhancement

- Presented at the AI for Environmental Science Workshop, AAAI 2026 (Oral).

Enhancing Hazy Wildlife Imagery: AnimalHaze3k and IncepDehazeGan

- Presented at the Computer Vision for Animals Workshop, CVPR 2025 (Oral).

Projects

MediSnap | *Storyboard, Firebase, Gemini API*

- Developed a full-stack, feature-complete iOS application using Storyboard, and a Firebase backend; implemented secure user authentication (Firebase Auth), real-time product/order management (Firestore), and cart functionality.
- Engineered an AI-powered prescription parsing feature, utilizing image processing and text recognition to automatically detect, identify, and add medications from a prescription photo directly into the e-commerce cart.

COPOTrack | *Express, React, Tailwind, MongoDB*

- Built a MERN application to automate academic outcome tracking (COs, POs) with analytics and role-based access.
- Designed secure REST APIs with JWT authentication and dynamic dashboards for faculty and admins to track results.

AsanAI | *React, FastAPI, TensorFlow, OpenCV, MediaPipe*

- Developed a web-based yoga assistant that provides users with real-time pose detection and corrective feedback to improve form and minimize the risk of injury, supporting over 10 Asanas.
- Implemented a computer vision pipeline using MediaPipe and TensorFlow for real-time, in-browser pose estimation and feedback delivery, at over 30 FPS within a full-stack React and FastAPI application.

Achievements

2st Runner Up, RoboSoccer Event, TechnoXian, World Robotics Championship 2023

- Secured 3rd Position in the RoboSoccer Event, competing with 20+ teams worldwide.

Achiever's Scholarship Recipient 2023

- Secured a 20% merit scholarship for academic excellence, ranking in the top 0.3% of the Batch of 2026.

Amazon ML Summer School

- Selected from a competitive pool of over 60,000 applicants to attend the Amazon ML Summer School.

Education

Manipal Institute of Technology, Manipal

2022-2026

B.Tech Computer Science

CGPA: 9.32

Technical Skills

Languages: Python , C , C++ , Java, SQL

Frame Works/Tools: React, Express, Django, Snowflake, Apache Spark, Github, Docker, Jamovi, MLFlow, Grafana

Libraries: TensorFlow, PyTorch, OpenCV, NumPy, Pandas, Matplotlib, Scikit-learn, Sktime