Sneha

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Objective

Final-year B.Tech student in Computer Science with a passion for machine learning, computer vision, and edge AI. Experienced in building deep learning models for real-world tasks like object detection, medical imaging, and anomaly detection. Seeking opportunities to apply AI in practical, data-driven systems.

Education

B.Tech in Computer Science and Engineering
IIIT Hyderabad
Expected: May 2026 | *CGPA: 9.1/10*

Relevant Coursework:

- Machine Learning
- Deep Learning
- Computer Vision
- Image Processing
- Probability and Statistics
- Data Structures & Algorithms

Skills

- **Languages**: Python, C++, MATLAB

- **Frameworks**: PyTorch, OpenCV, TensorFlow, scikit-learn, Keras
- **Tools**: LabelImg, Weights & Biases, Git, Docker, Google Colab
- **Concepts**: CNNs, Transfer Learning, Object Detection (YOLO, SSD), Autoencoders, Edge AI

Projects

🔹 **Brain Tumor Detection using CNN on MRI Scans**

Feb 2025 – Apr 2025

- Developed a custom CNN pipeline to classify brain tumors from MRI slices (public Kaggle dataset).
- Achieved 94.3% validation accuracy using extensive data augmentation and dropout regularization.
- Used Grad-CAM to visualize model attention for clinical interpretability.

🔹 **Real-Time Object Detection on Raspberry Pi with YOLOv5**

Nov 2024 – Jan 2025

- Converted and optimized YOLOv5s model using ONNX and TensorRT for real-time detection on Raspberry Pi 4.
- Built a Python script with OpenCV to capture frames and overlay bounding boxes in live video.
- Achieved ~11 FPS on edge device with thermal camera input.

🔹 **Anomaly Detection in Industrial Machines Using Autoencoders**

Jul 2024 – Aug 2024

- Collected vibration and temperature sensor data from a simulated factory line.
- Trained a deep autoencoder to detect abnormal patterns in multivariate time series.

- Deployed model as a REST API with real-time alerts and dashboard.

🔹 **Image Colorization using Deep Learning**

Apr 2024 – May 2024

- Built a U-Net-based model that colorizes grayscale photos.
- Trained on the ImageNet subset with perceptual loss for high-quality outputs.
- Evaluated with SSIM and PSNR metrics on held-out test images.

Internship

Computer Vision Intern – VisionForge Technologies
May 2024 – Jul 2024

- Worked on crowd counting from surveillance feeds using density map regression with CSRNet.
- Annotated datasets using CVAT and used PyTorch Lightning for training and tracking experiments.
- Integrated trained model into an existing camera monitoring tool for live analysis.

Achievements

- Top 100 – Zindi's "African Wildlife Recognition" competition (2024)
- Finalist – Intel Edge AI Challenge (Student Track), for project on low-power gesture recognition
- IEEE Student Paper – "Compact CNN for Surface Defect Detection in Manufacturing Lines" (2025)

Positions of Responsibility

- **Core Member**, Computer Vision Club – Led workshops on object detection and image segmentation

- **Lab Assistant**, Machine Learning Lab – Guided 2nd year students on ML assignments and model debugging

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Certifications

- Deep Learning with PyTorch – Udacity

- Computer Vision with TensorFlow – Coursera

- Edge AI Model Deployment – NVIDIA DLI Workshop
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