YEDUGURU SIVANI
R&D ENGINEER

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PROFESSIONAL SUMMARY

Innovative and results-oriented R&D Engineer with 1 year and 7 months of hands-on experience in embedded systems, deep learning, and low-level system programming. Skilled in Embedded C, C++, Python, and proficient with Linux system development, ONNX, and TVM runtime frameworks.

TECHNICAL SKILLS

Programming Languages:	C, C++, Python
Frameworks & Tools:	PyTorch,ONNX Runtime, TVM
Communication Protocols:	UART, SPI, I2C
Hardware Platforms:	TDA4VM, Jetson(Nano, Xavier-NX), ESP32
Data Processing & Visualization:	Numpy, Pandas,Matplotlib,OpenCV, GStreamer
Core Competencies:	Data Structures, STL, Design Patterns, Computer Networks, Socket Programming, Multithreading, IPC

EXPERIENCE

Zentree Labs
R&D Engineer

📅 Nov 2023 - present   📍 Hyderabad, India

Serving as an AI-Embedded R&D Engineer, contributing to real-time AI solutions on edge devices.

PROJECTS

1. People and Chair Occupancy Detection (POC)
Technologies Used: C++, Python, YOLOv8, Apache TVM, ONNX, OpenCV, NVIDIA Jetson Xavier NX, Linux Internals
- Developed a real-time occupancy detection system with a Qt-based GUI for visualization.
- Engineered an optimized object detection pipeline using YOLOv8, accelerated through Apache TVM and ONNX for GPU deployment.
- Successfully deployed on Jetson Xavier NX, achieving low-latency performance with OpenCV-powered preprocessing.

2. Traffic Analysis (POC)
Technologies Used: Python, C++, YOLOv8, Apache TVM, ONNX, OpenCV, GStreamer, TI Board
- Designed a real-time traffic monitoring and alert system for high-risk zones using YOLOv8, trained on Indian road scenarios.
- Converted and optimized the model for deployment on TI embedded boards with TVM runtime.
- Integrated video pipelines via GStreamer and implemented model quantization for enhanced embedded performance.

3. Face Recognition (POC)
Technologies Used: C++, Qt, Linux Internals, OpenCV, Face Recognition
- Built a real-time face recognition solution with a multithreaded Qt interface for embedded Linux platforms.
- Applied advanced computer vision methods for accurate facial detection and recognition.
- Tuned the solution for edge devices, boosting accuracy and performance.

EDUCATION

Annamacharya Institute of Technology & Sciences, Rajampet
B.Tech. in Electrical & Electronics Engineering

🏛 CGPA: 8.32   📅 2020 - 2023

Loyola Polytechnic (YSRR), Pulivendula
Diploma in Electrical & Electronics Engineering

🏛 Percentage: 85.43%   📅 2017 - 2020