SOMNATH JHA

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PROFESSIONAL SUMMARY

Software Engineer with expertise in embedded systems, backend development, and Linux system programming. Experienced in developing AI solutions for automotive edge deployment, cloud integration, and scalable system architecture. Proficient in C/C++, Python, Go, and embedded AI technologies.

WORK EXPERIENCE

**Associate Software Engineer**

Bosch Global Software Technologies | Pune, India | October 2024 - Present

• Developed embedded AI solutions optimized for edge deployment on automotive SoCs

• Designed and deployed modules connecting edge devices with cloud backends

• Collaborated with cross-functional teams to deliver scalable and efficient automotive systems

**Industrial Trainee**

SAIL (Steel Authority of India Limited) | Dhanbad, India | February 2023 - June 2023

• Managed PLC control room operations and maintenance

• Conducted quality control assessments for mining rigs and industrial equipment

• Gained experience in industrial automation and large-scale system reliability

PROJECTS

**ESP32 Image Classifier with TensorFlow Lite**

• Built optimized CNN model for real-time inference on ESP32 microcontroller

• Reduced model size by 75% through quantization and integrated MobileNet v1 architecture

**Hybrid Edge-to-Cloud Traffic Violation Detection**

• Designed real-time violation detection pipeline using YOLOv8 computer vision

• Implemented edge device image capture with cloud-based AI inference via Flask API

EDUCATION

**Bachelor of Technology** - Electronics and Communication Engineering

Chandigarh Engineering College, Punjab Technical University | 2019 - 2023

GPA: 7.9/10

**Higher Secondary Certificate** - Non-Medical

Holy Cross School (CBSE) | 2016 - 2018

TECHNICAL SKILLS

Programming Languages: C, C++, Python, Go

Embedded Systems: ESP32, Arduino, TensorFlow Lite, Edge Impulse, Nicla Vision

Backend Development: FastAPI, Flask, Gin, REST APIs

Databases: MySQL, MongoDB, Redis

Systems: Linux, Bash scripting, process management, kernel modules, device drivers

DevOps Tools: Docker, Git, GitHub, CI/CD