Hariharan S

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Executive Summary

B.Tech Artificial Intelligence & Data Science student with practical experience building scalable AI systems such as GenAI-based petition automation, traffic sign recognition, and multimodal image–LLM applications. Skilled in Full Stack development using Python, SQL, Fast API, JavaScript, TensorFlow, and OpenCV, with a strong grasp of end-to-end model development and backend integration. Creative and motivated problem-solver with a quick learning capability, solid teamwork and communication skills. Collaborate effectively with cross-functional teams aiming to contribute to impactful AI and software engineering projects.

Tools and Technologies

- Programming Languages : Python, JavaScript, TypeScript.
- Frontend & Backend Development : HTML5, CSS3, React.js, Node.js, Express.js
- Database : MongoDB, MySQL
- Developer Tools : Git, Github, VS code, Postman for API Testing
- Core Concepts : REST APIs, API Integration, Authentication, Responsive Design, React Hooks, Server-Side Rendering

Education

Kongunadu College of Engineering &Technology - B.Tech Artificial Intelligence and Data Science — 2021–2025
- CGPA: 7.1/10

Govt Higher Secondary School, Computer Science — May 2021
- Cum. Per.: 77.0%

Projects

PETITION CATEGORIZATION USING GEN-AI

1. Developed an LLM-driven petition classifier using OpenAI/LLama models, sentence-transformer embeddings, and custom prompt templates for accurate grievance categorization.
2. Built the backend using FastAPI, Python, and MySQL, implementing modular routes for petition intake, classification logs, and retrieval.
3. Integrated Firebase Cloud Messaging for instant user notifications and optimized inference latency using model quantization + async processing.
4. **Impact**: Achieved 60% reduction in manual case review and improved automated routing precision for high-volume grievance systems, showcasing the effectiveness of my **software solution** methodology.

TRAFFIC SIGN RECOGNITION USING ML

1. Built a traffic-sign recognition pipeline using OpenCV, Python, and TensorFlow/Keras CNN models trained on multi-class road-sign datasets.
2. Applied preprocessing (HSV filtering, thresholding, contour extraction) and data augmentation (rotation, blur, brightness shifts) to improve model robustness and facilitated **testing** for optimal performance.
3. Added feature extraction using HOG descriptors and implemented real-time sign detection with OpenCV frame-level inference.
4. **Impact**: Improved classification accuracy and reduced false detections, enhancing reliability for ADAS and autonomous navigation systems.

Potential Projects

- National Level – SIH 2024: Developed an AI-powered Conversational Image Recognition Chatbot using deep learning, computer vision, and NLP to automate image understanding and improve response accuracy and user interaction efficiency.

Certifications

- **IT Specialist – Python (Certiport):** Certified in foundational Python programming. Oct 2023
- **Certificate Course- in CRM (ICT Academy):** Successfully completed training on Customer Relationship Management covering CRM strategies, customer engagement, and digital customer experience. Sep 2024
- **Build Your Own Dynamic Web Application (NxtWave Intensive):** Practical training in dynamic web app development using core JS and DOM APIs. Sep 2025
- **Node.js (NxtWave Intensive):** Backend development using Node.js, Express.js, REST APIs, asynchronous programming, and server-side application design. Sep 2025
- **React.js (NxtWave Intensive):** Hands-on training in components, hooks, and modern frontend development. Nov 2025