Himanshu Dongre

himanshudongre1991@gmail.com | +91-8275530625 | himanshudongre | hdongre

Summary

Engineering leader with 12+ years of experience building production AI systems for autonomous driving, in-cabin sensing, and perception platforms. I lead teams and projects while remaining deeply hands-on in architecture, model deployment, optimization, and embedded ML under strict latency, compute, and safety constraints. Outside work, I actively explore AI systems ideas with a research-oriented bent, especially around trustworthy agents, LLM memory and state, predictive representation learning, and structured visual representations.

Experience

KPIT Technologies **2019 - Present**
Sr. Tech Lead, AI/ML Autonomous Systems Bengaluru / Tokyo / Pune

- Lead perception and in-cabin AI development across programs for BMW, Honda, Nissan, and Toyota Research / Woven.
- Have led and managed 15–20 member teams while driving architecture, execution planning, technical reviews, and delivery.
- Build and deploy deep learning systems on constrained embedded platforms where latency, memory, throughput, and safety requirements shape design choices.
- Designed and optimized multi-model and multi-sensor pipelines involving camera, LiDAR, radar, pose, gaze, and anticipation components.
- Led optimization work spanning quantization, distillation, graph optimization, ONNX conversion, and embedded inference acceleration.
- Built high-performance middleware for running multiple perception models concurrently on NVIDIA Drive and Qualcomm Snapdragon Ride.
- Worked on driver-assistance functionality including adaptive speed adjustment using traffic signs, road friction, rain, visibility, and time-of-day context.
- Designed vehicle interface layers and CAN APIs used by autonomous driving research platforms, and now also advise internally on AI, GenAI, and agentic workflow adoption.
- It is deeply satisfying to know that if you have driven cars from some of these manufacturers, there is a good chance they contain code I wrote, contributed to, or helped design.

Independent / Freelance Work **2017 - 2018**
Software Engineer Bengaluru

- Built a deep learning-based neural style transfer system for mobile applications.
- Developed a full-stack platform for healthcare billing workflows.

Accenture **2014 - 2017**
Software Engineer Bengaluru

- Built automated testing systems for telecom services and contributed to real-time rating, billing, and backend modernization work.

Independent Systems Work

Smriti: Building a system for versioning LLM reasoning and context, treating thought processes as structured, replayable state analogous to how Git versions code.

Sentinel OS: Designing a local trust kernel for AI agents focused on verifiable execution, deterministic policy enforcement, tamper-evident audit trails, and stronger guarantees around agent actions and state.

Patent application: *Mobile Device Performance Improvement System Using Cloud Computing*, focused on improving mobile-device performance through cloud-assisted execution.

Education

M.S. Computer Science
University of Colorado Boulder
2024 - Present | GPA: 4.0

Executive PG Programme in ML & AI
IIIT Bangalore
2022 - 2023 | CGPA: 3.66 / 4.0

B.E. Computer Engineering
Nagpur University
2013

Skills

Languages: Python, C++, Rust, C

ML / CV: PyTorch, TensorFlow, ONNX, ONNX Runtime, TensorRT, OpenCV, scikit-learn

Deployment / Optimization: ONNX conversion, TensorRT optimization, quantization, distillation, graph optimization, profiling, inference pipelines

Systems / Platforms: Embedded AI, Jetson, NVIDIA Drive, Qualcomm Snapdragon Ride

Domains: Perception systems, autonomous driving, in-cabin sensing, driver monitoring, traffic sign systems, multi-modal pipelines, computer vision

Leadership: Technical leadership, architecture ownership, team mentoring, cross-functional execution, customer-facing delivery