

KISHORI MOHAN DEKA

Principal Architect | Computer Vision & Manufacturing Intelligence

Bangalore, Karnataka (*Ready for Relocation to Assam*)

✉ +91 93538 97435 ✉ kishorimohandeka@gmail.com

Executive Summary

Guwahati-native Solution Architect with 15+ years of experience, seeking to leverage deep expertise in **VLDB (Oracle)**, **Cloud Architecture**, and **Industrial AI** to establish world-class IT/OT infrastructure at Tata Electronics, Jagiroad. Currently an AI Technical Lead at Genpact. Transitioning from Enterprise IT to **Smart Manufacturing**, with a specific focus on applying **CNNs for Defect Detection** and **RAG architectures** for Process Knowledge Management. Committed to the long-term industrial growth of Assam.

Core Competencies

- **Industrial AI:** Computer Vision (CNNs) for AOI (Automated Optical Inspection), Yield Prediction Models, Predictive Maintenance.
- **Data Architecture:** Management of VLDBs (Very Large Databases) suitable for high-throughput sensor/telemetry logs (24/7 reliability).
- **Cloud & Edge:** Hybrid Cloud Architecture (AWS/Azure) for secure Factory-to-Cloud data pipelines; Edge AI deployment.
- **DevOps & MLOps:** CI/CD pipelines for deploying updated inspection models to production lines without downtime.
- **Tech Stack:** Python (PyTorch/TensorFlow), Oracle DB, SQL/PLSQL, Terraform, Docker/Kubernetes.

Semiconductor Domain Focus (Self-Driven Focus)

Predictive Maintenance for Rotary Equipment

Lead Architect (R&D Initiative)

Self Initiated

May 2025 – Present

- **Capstone Project: Wafer Map Defect Classification using ResNet-50**
 - **Objective:** Automated classification of wafer defects (Center, Donut, Locul, Scratch patterns) using the **WM-811K dataset**.
 - **Architecture:** Built a pipeline using Python/Pandas for data preprocessing and a CNN (ResNet) for pattern recognition, simulating a "Virtual AOI" station.
- **Concepts Mastered:** Semiconductor Packaging Lifecycle (Wafer Sort, Die Attach, Wire Bond, Encapsulation), OEE (Overall Equipment Effectiveness) metrics, SECS/GEM data protocol basics.

Professional Experience

Genpact

Solution Architect (*AI Innovation Lab*)

Bangalore

May 2019 - Present

- **Computer Vision Architecture:** Led the design of Vision-based monitoring systems using **CNNs**. **Relevance to Tata:** Skills transferable to **Automated Optical Inspection (AOI)** systems used in Wire Bonding and Final Test stages.

- **LLM & RAG Solutions:** Architected Retrieval-Augmented Generation (RAG) systems to query vast technical document repositories. *Relevance to Tata:* Applicable for *Smart Technician Assistants* to instantly query SOPs and Machine Manuals.
- **Model Deployment:** Standardized MLOps pipelines to move models from Python Notebooks to production APIs, ensuring scalability and version control.

SoftwareONE

Technical Lead (Cloud Platforms)

Bangalore

May 2015 – April 2019

- **Hybrid Cloud Strategy:** Designed secure Hybrid architectures (On-prem + Cloud). *Relevance to Tata:* OSATs typically keep sensitive yield data on-prem (Edge) while bursting anonymized analytics to the Cloud.
- **Infrastructure as Code (IaC):** Implemented Terraform/Ansible to automate environment provisioning, reducing setup time by 40%.
- **High-Availability Systems:** Engineered systems for 99.9% uptime, critical for 24/7 manufacturing shifts.

Oracle

Senior DBA

Hyderabad & NOIDA

Oct 2011 – March 2015

- **VLDB Performance:** Managed **Multi-Terabyte Databases** for high-concurrency environments. *Relevance to Tata:* Semiconductor tools generate massive log files (Big Data). Your ability to manage VLDBs is critical for the "Data Historian" layer of the factory.
- **Data Integrity:** Ensured zero data loss for transactional systems, mirroring the requirement for "Traceability" in chip manufacturing (tracking every chip back to its wafer).

Kore.ai

Senior Technical Consultant

Hyderabad

Apr 2009 – Oct 2011

- Managed Oracle Web Application Server and Oracle Database implementations for US and Europe based Aviation clients, adhering to strict compliance and uptime standards.

Education

Indian School of Business

Adv Mgmt Prog in Analytics & Artificial Intelligence (APMBA 2024W)

Hyderabad

2022 – 2025

Jawaharlal Nehru Technical University

Electrical & Electronics Engineering

Hyderabad

2004 - 2008

Certifications

AWS Certified Advanced Networking / IoT Specialty

Amazon Web Services

2025

Semiconductor Packaging Specialization

Coursera (offered by Arizona State University)

2026 (in-progress)