

# VIJI MUNUSWAMY

Enterprise AI Systems Architect • Technical Program Manager • Retail ERP & POS Solution Architect

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## PROFESSIONAL SUMMARY

Accomplished **Enterprise AI Systems Architect** and **Technical Program Manager** with over **20 years of IT experience**, combining 15+ years of deep Retail ERP/POS domain mastery with modern AI-accelerated platform delivery.

- **End-to-End SDLC & Technical Delivery:** Proven track record directing the full software development lifecycle—from requirements and architecture through engineering, testing, payment boundaries, and global store-to-HQ rollouts.
- **Enterprise Scale & Leadership:** Proven leadership across solution architecture, technical governance, and 50+ member cross-functional engineering teams across USA, India, and SEA (SAP IS Retail, LS Central, NetSuite ERP).
- **Production AI & Modern Full-Stack:** Independently builds and ships live AI-accelerated platforms (propertism.in, Deal Discovery Engine, multi-module Olivine ERP) leveraging Python/Django, React/Next.js, and agentic workflows.

## CORE COMPETENCIES & TECHNOLOGY MATRIX

| Core Competency & Focus Area                            | Technologies, Platforms, Frameworks & Standards                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ■ ARTIFICIAL INTELLIGENCE, AI SOLUTIONS & GENERATIVE AI |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Frontier Foundation Models & Inference                  | <b>Frontier LLM Families:</b> Google DeepMind (Gemini), Anthropic (Claude), OpenAI (GPT/o-series), xAI (Grok), DeepSeek (V3/R1 Reasoning), Moonshot (Kimi), Meta (Llama), Alibaba (Qwen)<br>• <b>Inference Accelerators &amp; Serving:</b> Groq LPU High-Speed Inference, vLLM, Ollama, Server-Sent Events (SSE) Streaming                                                                                                                                                                                                                    |
| LLM Systems, Training & Alignment                       | <b>Transformer Fundamentals:</b> Attention Mechanisms, KV Caching, Context Windows, Autoregressive Next-Token Generation<br>• <b>Training Lifecycle &amp; Curricula:</b> Pre-Training on Text Corpora, Supervised Fine-Tuning (SFT), Teacher-Student Synthetic Data Distillation (Structured JSON / High-Entropy), Base vs. Chat Checkpoints<br>• <b>Model Weights &amp; Storage Architecture:</b> PyTorch Checkpoints (.pt / .pth), Zero-Copy Tensors (.safetensors), Distributed TensorStore, Edge Quantization (GGUF for Ollama/llama.cpp) |
| Agentic IDEs, Systems Architecture & RAG                | <b>Next-Gen Agentic IDEs &amp; Extensions:</b> Google Antigravity IDE, Anthropic Claude Code, Windsurf, Kiro, Zed, Cursor, VS Code (Kilo, Copilot, Cline)<br>• <b>Agentic Standards &amp; RAG:</b> Model Context Protocol (MCP) Integration, Multi-Agent Orchestration, Tool Calling / Function Calling, Hybrid Vector RAG, GraphRAG, pgvector, Deterministic Execution Sandwiches                                                                                                                                                            |
| ■ PROGRAM, PROJECT & TECHNICAL LEADERSHIP (PMO)         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Technical Leadership & Delivery                         | End-to-End Software Development Lifecycle (SDLC), Technical Governance, Cross-Functional Team Leadership (50+ Engineers/BAs/QAs), Agile/Scrum Program Delivery, Sprint Orchestration, RCA & Production Readiness                                                                                                                                                                                                                                                                                                                              |
| Technical Program & Multi-Pod Delivery (TPM)            | Global Technical Program Management, Multi-Pod Engineering Orchestration (Distributed Pods across UI, Cart, Checkout, Pricing, Core Services), Distributed Team Enablement, Global Coordination (USA, India, SEA, Middle East)                                                                                                                                                                                                                                                                                                                |
| Agile, Scrum & Delivery Governance                      | Sprint Planning, Daily Standups, Backlog Grooming, Retrospectives, JIRA & Confluence Automation, Kanban Dashboards, Weekly Management Reports (WMR), Velocity & Burndown Metrics, Scrum Guide Ceremony Ownership under Strict 2-Week Timeboxes, RACI-Driven Sprint Governance (PO/Dev Team/SM/Stakeholder Accountability), End-to-End Delivery Lifecycle Ownership (MVP Scoping via MoSCoW/T-Shirt Sizing through Demo Acceptance & Velocity Reporting)                                                                                       |
| Enterprise Rollouts & Practice Management               | High-Velocity Multi-Account Rollouts (60+ Enterprise POS/ERP Accounts in 9 Months), Retail Practice Leadership, C-Suite Steering Committees, Scope & Change Request (CR) Governance, SLA Governance                                                                                                                                                                                                                                                                                                                                           |
| ■ DOMAIN & SOLUTION ARCHITECTURE                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Retail ERP & Store Systems Architecture                 | Point of Sale (POS) Architecture, SAP IS Retail Integration, LS Central, NetSuite ERP, Store-to-HQ Sync, Store-and-Forward Resilience, Self-Checkout (SCO), Peripheral Integration (Cash Drawer / Scanners / Printers), Payment Boundaries                                                                                                                                                                                                                                                                                                    |
| Enterprise Solution Architecture                        | Solution Architecture Documents (SAD), Architecture Decision Records (ADR), Interface Catalogs, Architecture Governance, Security & PCI/PII Segmentation, Observability & SLOs                                                                                                                                                                                                                                                                                                                                                                |
| Integration & API Architecture                          | REST APIs, Microservices, API Taxonomy & Schema Standards, Event-Driven Integration, Payment Gateway Integration, Aadhaar AEPS, OTP Authentication, Logistics & Aggregator APIs                                                                                                                                                                                                                                                                                                                                                               |
| Cloud, Full-Stack & Data                                | AWS (EC2, S3, CloudFront, Elastic Beanstalk), Docker Containers, CI/CD Pipelines, Python, Django, React, Next.js, TypeScript, PostgreSQL, MySQL, SQL Server, Oracle, PL/SQL                                                                                                                                                                                                                                                                                                                                                                   |
| ■ PRODUCT MANAGEMENT & ENTERPRISE SAAS                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Product Strategy & Lifecycle (PLC)                      | Product Vision & Roadmapping, Market & Gap Analysis, Feature Prioritization (MoSCoW, RICE), PRDs, Functional Specifications, Wireframing & UX Prototyping, MVP Scoping, Release Planning                                                                                                                                                                                                                                                                                                                                                      |
| Enterprise SaaS & Solution Ownership                    | Multi-Tenant SaaS Scoping, Omnichannel User Journeys (O2O), Product Customization Frameworks, Customer UAT Governance, Enterprise RFP/BBP Scoping, Client Advisory & Go-To-Market (GTM) Enablement                                                                                                                                                                                                                                                                                                                                            |

## AI-ACCELERATED ARCHITECTURE — EVIDENCE OF WORK

*Selected, production-weighted examples — not a full systems inventory. Full technical walkthrough available on request or via portfolio.*

- **Propertism Realty Platform (propertism.in):** Production. Freelance-built real estate advisory platform for NRI property owners: Django/PostgreSQL backend, multi-language CMS, property discovery, and lead publishing pipeline, live and serving real client traffic.
- **Deal Discovery Engine (admin.propertism.in):** Production. The operational core behind Propertism: automated lead valuation, prospect matching, and NRI investor pipeline management, built and actively maintained solo.
- **Olivine ERP Platform:** Fully functional. Self-built, metadata-driven multi-module enterprise ERP (Retail, HRM, CRM, Finance, Procurement) on Django/PostgreSQL/React, architected and orchestrated using AI-assisted multi-agent engineering workflows.
- **OAIDF (AI Governance Framework):** In development. A structured AI-safety and compliance framework for boundary enforcement and governed tool-use across multi-agent systems — the architectural thesis behind how the above platforms are built and governed.
- **Additional Proof-of-Concept Builds:** Job intelligence aggregation, WhatsApp CRM, a from-scratch GPT/transformer implementation, and ML-algorithms-from-scratch — available as interview-stage technical walkthroughs in lieu of formal certifications.

## RETAIL & SOLUTION ARCHITECTURE HIGHLIGHTS

- **SAP IS Retail & Enterprise Integrations:** Architected complex integration topologies connecting Retail Excel Central Instance, iStore ERP/POS, and SAP IS Retail for major retail conglomerates (e.g., Al-Muhaidib Group in KSA).
- **LS Central & Store Operations Architecture:** Architected and executed LS Central implementations, store-to-HQ synchronization, and support workflows for international retail and restaurant chains (Woodies DIY UK, Dindigul Thalappakatti).
- **Store-to-HQ Resilience & Store-and-Forward:** Designed offline resilience patterns, local queue buffering, and data reconciliation mechanisms ensuring 100% store operational continuity during network disconnections.
- **Payment Boundaries & Peripheral Integration:** Established security segmentation for payment terminal boundaries, receipt printers, barcode scanners, and cash drawer integrations adhering to strict compliance standards.
- **60+ Enterprise Account Rollouts:** Led solution delivery and store rollout architecture for 60+ mid-size and large enterprise retail/POS accounts within a 9-month timeline during remote execution mode.
- **Digital Commerce Migration Governance:** Managed cross-functional sprint deliveries and roadmap tracking for global digital commerce platform migrations (Vue.js to Next.js micro-frontends) and enterprise VIP initiatives.
- **Global Stakeholder & Pod Orchestration:** Coordinated delivery between Product Managers (USA) and global engineering teams spanning UI, Shopping Cart, Checkout, Pricing, and Core Services.

## WORK EXPERIENCE

### Samsung Electronics — Digital eCommerce ↗ — Technical Program Manager — Digital eCommerce

*Dec 2023 — Present | Chennai, India*

- **Global Stakeholder Coordination:** Drove program alignment, milestone tracking, and cross-functional coordination between Product Managers (USA), business leaders, and global technical teams during major rollouts like the "VIP Management Program".
- **Cross-Functional Sprint & Scrum Delivery:** Orchestrated sprint planning, backlog grooming, daily scrums, and retrospectives across distributed engineering pods covering UI / Micro-frontends, Shopping Cart, Checkout, Pricing Engine, and Core Services.
- **JIRA & Confluence Automation:** Built and automated JIRA/Confluence tracking dashboards, Kanban boards, sprint metrics, and automated Weekly Management Reports (WMR) providing real-time visibility to executive stakeholders.
- **Platform Modernization Delivery:** Coordinated delivery execution for major digital commerce initiatives, including the frontend platform migration from Vue.js to Next.js micro-frontends, improving delivery predictability and cross-region team alignment.

### Career Transition

*Jul 2023 — Nov 2023 | Chennai, India*

- **Enterprise Opportunity Evaluation:** Dedicated transition period actively seeking and evaluating enterprise opportunities in Chennai, concluding with onboarding at Samsung Electronics.

### Photon Interactive Pvt. Ltd ↗ — Senior Project Manager / Technical Delivery Lead — Digital Delivery

*Mar 2023 — Jun 2023 | Chennai, India*

- **Cross-Functional Architecture Governance:** Spearheaded technical delivery and solution alignment for a 50+ member cross-functional team (Software Engineers, Solution Architects, BAs, QAs, DevOps) across USA, Indonesia, and India.
- **Frontend & Backend API Integration:** Governed integration architecture between React JS / React Native mobile/web frontends and core enterprise backend REST APIs, reducing integration friction.
- **Delivery Standards & Technical Reviews:** Enforced sprint execution standards, architectural design reviews, and backlog grooming to maintain high delivery quality across distributed engineering pods.

### Inspirria Cloudtech Pvt. Ltd — Senior Project Manager / Solution Integration Lead

*24 Aug 2022 — Jan 2023 | Pune, India (Remote)*

- **NetSuite ERP & SuiteApp Architecture:** Led the solution architecture, effort estimation, and deployment governance for NetSuite ERP and HRSuiteApp enterprise implementations.
- **Integration & UAT Governance:** Directed User Acceptance Testing (UAT) and interface validation for enterprise accounts including Advy Chemicals NetSuite ERP and Aero Trans Cargo (UAE).
- **Support & Change Architecture:** Managed technical CRs, system scope changes, and ongoing support architecture for multi-region Middle East accounts (Global Holding Alliances, ICC).

### Cetas Information Technology Pvt Ltd ↗ — Retail Practice Head / Solution Architect

*15 Nov 2021 — 22 Aug 2022 | Chennai, India*

- **LS Central & Retail POS Solution Architecture:** Directed the solution design, integration topology, and store rollout architecture for LS Central POS and ERP software implementations.
- **Store-to-HQ & Third-Party System Integration:** Designed integration workflows between LS Central, SAP IS Retail, food aggregator APIs, logistics platforms, OCR document management, and Micros Business Central.
- **Enterprise Store Rollouts:** Architected and successfully rolled out LS Central POS systems across chain restaurant outlets (Dindigul Thalappakatti) and transitioned UK retail account support (Woodies DIY, 35+ stores across UK/Ireland).
- **Scope & Technical Governance:** Conducted bi-weekly technical steering committee reviews with client C-suite stakeholders, managing scope changes, effort estimates, and system integration milestones.

## WORK EXPERIENCE (CONTINUED)

### Wondersoft Pvt. Ltd ↗ — Associate Vice President — Global Implementation Head

Feb 2020 — 6 Nov 2021 | Chennai, India

- **Global POS & Retail ERP Implementation Architecture:** Headed the technical implementation department (20 members: 5 Implementation Leads, 15 Consultants), establishing architecture deployment guidelines for retail accounts.
- **High-Velocity Rollout Execution:** Led the rapid rollout of POS and Retail ERP solutions across 60+ mid-size and enterprise accounts within 9 months during WFH/lockdown conditions.
- **Project Governance & Resource Allocation:** Managed project scope, technical risks, schedule baselines, and cross-project resource allocation to ensure on-time delivery across concurrent client implementations.

### Personal Sabbatical

Aug 2018 — Feb 2020 | Chennai, India

- **Family Responsibilities:** Stepped away from full-time delivery roles for family responsibilities.

### SeaAnt Web Technologies Private Ltd. ↗ — Technical Project Manager / Solution Architect

Oct 2015 — Aug 2018 | Chennai, India

- **End-to-End SDLC & Solution Delivery:** Directed the full end-to-end software development lifecycle (SDLC) for custom web and mobile enterprise applications—from client requirements analysis and UX/data modeling to cross-functional development, QA, and deployment.
- **Bespoke Enterprise Systems:** Architected specialized enterprise systems including Madura Microfinance Loan Collection app (Web/Mobile) with CRM auditing scorecards, Royal Agro E-Trading platform, and Australian Compliance Site Trackers.
- **Identity & Payment System Integrations:** Designed secure integration architectures for Aadhaar Enabled Payment System (AEPS), OTP SMS customer verification, and Mobile Device Management (MDM) kiosk control systems.
- **BPMN 2.0 Workflow Engine Architecture:** Designed the Adrenalin Visa Management System using BPMN 2.0 workflow architecture to automate UAE visa lifecycle tracking, document verification, and expiry alerts.
- **Government Mobility Solutions:** Architected the backend and mobile interface for ComfortDelGro Driving Centre (Singapore) learner tracking system following winning Singapore tender proposals.

### Intellect Design Arena Limited (formerly POLARIS) ↗ — Executive Project Manager / Solution Architect

Nov 2013 — Jun 2015 | Gurugram, India

- **SAP IS Retail & iRetail Architecture:** Served as Solution Architect for the iRetail Product Customization & Integration for Al-Muhaidib Group & Sons (Kingdom of Saudi Arabia).
- **Enterprise System Integration:** Architected the seamless integration topology connecting Retail Excel Central Instance, iStore ERP & POS, and SAP IS Retail enterprise backend.
- **End-to-End SDLC & Quality Governance:** Owned the end-to-end SDLC for Retail ERP & POS customizations, driving functional GAP analysis, architectural enhancements, and end-to-end CIT, SIT, and UAT sign-off phases under tight client deadlines.

### Unipro Tech Solutions Pvt. Ltd ↗ — Technical Director / Chief Architect

Feb 2012 — May 2013 | Chennai, India

- **End-to-End SDLC & POS Product Architecture:** Directed the end-to-end software development lifecycle (SDLC) for the new .NET-based Point of Sale (POS) and Retail ERP suite, governing the complete journey from PRD conception and system architecture to sprint engineering, testing, and production release.
- **Product Specifications & Wireframing:** Created complete Product Requirement Documents (PRD), architectural module specs, database schemas, and wireframe designs.
- **Production Support & Turnaround Optimization:** Formulated automated ticket tracking workflows and support processes, significantly improving issue Turnaround Time (TAT) for key retail clients.

### Information Dynamics India Pvt Ltd ↗ — Senior Project Manager / Product Manager

Jul 2010 — Dec 2011 | Chennai, India

- **Retail ERP & POS Platform Migration Architecture:** Led product architecture and requirements for migrating the core Retail ERP & POS software suite from Visual Basic to the .NET framework.
- **Market Synthesis & System Design:** Conducted market requirement gathering, functional scoping, effort estimation, and system design reviews for next-generation store management software.

### Intellect Design Arena Limited (formerly POLARIS) ↗ — Senior Project Manager — Retail Excel International

May 2009 — Jun 2010 | Chennai, India

- **End-to-End SDLC for Global Retail Deployments:** Governed the full SDLC lifecycle for international Retail Excel ERP & POS implementations across Botswana, South Africa, Dubai, and UAE, spanning initial system study, scope estimation, development governance, and rollout.
- **Onsite Functional Estimation:** Conducted onsite system analysis, functional point estimations, and technical project planning for international retail deployments.

### Ramco Systems ↗ — Project Manager — HCM Enterprise Solutions

3rd Week of May 2007 — Apr 2009 | Chennai, India

- **Enterprise Platform Migration & Support:** Managed enhancement development, code review, and version control for the HCM base product, executing migration from RVW 1.4.3 to RVW 2.0.
- **SLA Governance & Release Management:** Established weekly statistical SLA tracking and release management controls across multiple concurrent enterprise installations.

### Intellect Design Arena Limited (formerly POLARIS) ↗ — Project Lead / Software Engineer

Jul 2000 — 2nd Week of May 2007 | Chennai, India

- **Super Store 2000 & Retail Excel Full SDLC:** Executed end-to-end SDLC phases as a key member of the core development team for Super Store 2000; served as Module Leader for the Accounting Module in Retail Excel.
- **Custom POS Solutions & Report Utility:** Developed custom POS functionalities and built an enterprise report utility engine; conducted onsite UAT sign-offs across client locations in India.

## EDUCATION & PROFESSIONAL RECOGNITION

- **Education:** M.Com in Banking and Insurance (Annamalai University) | Diploma in Computer Technology (DOTE, GPA: 91% Distinction)
- **Awards & Honors:** Delivery Excellence Award (Polaris, 2006) | "Konark" Associate Excellence Award (Polaris, 2005) | Team Excellence Award (Superstore, 2001)