

# VENU KOPPALA

## Enterprise & AI Solutions Architect

Agentic AI Orchestration · Multi-Cloud Platforms · LLMOps & Governance

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### PROFESSIONAL SUMMARY

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Enterprise architect with 30+ years designing secure, highly-automated, mission-critical systems at scale — now architecting production AI and agentic platforms. Deep, hands-on command of the full stack beneath modern AI: multi-cloud (AWS, Azure, Oracle Cloud), data engineering on very-large databases, reliability engineering (HA/DR with hard RPO/RTO SLAs), and security & governance. Currently design and operate a multi-agent LLM orchestration platform — heterogeneous model fleets, Model Context Protocol (MCP) tooling, Retrieval-Augmented Generation, and fail-closed AI governance. Translate ambiguous business problems into resilient, cost-aware architectures and lead engineers to ship them.

### CORE COMPETENCIES

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**AI & Agentic Systems:** Multi-agent LLM orchestration · Model Context Protocol (MCP) · Retrieval-Augmented Generation (RAG) · Tool / function calling · Context & memory management · Vector embeddings & semantic search · Prompt & agent design · Agentic frameworks (LangChain, AutoGen, CrewAI) · Evaluation, guardrails & AI governance · LLMOps / MLOps · Cost-aware model routing

**Cloud & Infrastructure:** AWS · Microsoft Azure · Oracle Cloud Infrastructure (OCI) · VMware · Kubernetes · Docker · Infrastructure-as-Code (Terraform) · Microservices & API design · Serverless · Cloud migration & cost optimization

**Data & Reliability:** Very-large databases (VLDB) · Data pipelines & warehousing · Replication & standby · PostgreSQL / Oracle / SQL Server · HA/DR architecture · RPO/RTO SLAs · Observability · SRE practices

**Security & Governance:** PKI · Kerberos · Single sign-on (SSO) · TLS · Secrets management · Fail-closed authorization & auditability

**Leadership:** Solution architecture · Technical leadership & mentoring · Stakeholder alignment · Project delivery · Large-scale migrations

**Languages & Tooling:** Python · Shell / PowerShell · SQL · C++ · Git · Linux / Unix (AIX, Solaris, RHEL)

### PROFESSIONAL EXPERIENCE

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**Principal AI Systems Architect (Independent)** · Independent Applied-AI R&D

2024 – Present

*Self-directed · Remote*

- Designed and operate a production **multi-agent LLM orchestration platform** coordinating heterogeneous models (Anthropic Claude, OpenAI GPT, Google Gemini) under a permanent-orchestrator pattern with **just-in-time, tier-matched routing** — directing each task to the most cost-effective capable model.
- Built **Model Context Protocol (MCP) tool servers** exposing governed capabilities — version control, structured datastores, inter-agent messaging, and semantic memory — to the agent fleet behind well-defined, testable interfaces.
- Engineered an institutional **AI-governance layer**: fail-closed authorization gates, operator-attributed approval ledgers, and **run-vs-certification separation** (the agent that executes a model cannot self-certify it) — making autonomous actions auditable and safe by default.
- Implemented **Retrieval-Augmented Generation** over a vector-embedded knowledge base with provenance and lineage controls that prevent tautological self-validation; added **adversarial multi-agent verification** (independent reviewers that must refute a finding before it is accepted).
- Orchestrated deterministic fan-out → verify → synthesize workflows that parallelize work across agents while preserving reproducibility and explicit cost ceilings.

## Senior Technical Architect · AT&T / IBM / Kyndryl, Inc.

2012 – Present

*Continuous tenure through IBM's managed-infrastructure spin-off to Kyndryl · Clients: Fidelity National Financial, Toshiba Global Commerce, Doosan, Prudential Overall Supply*

- Introduced **AI orchestration into client service delivery** — multi-agent pipelines, LLM integration, prompt engineering, and agentic workflows (LangChain, AutoGen, CrewAI) — modernizing support and positioning accounts for AI-driven engagements.
- Sustained **100% SLA compliance** across all assigned enterprise client accounts — zero unplanned, team-attributable service breaches.
- Earned a **perfect 10/10 client NPS** from two major enterprise accounts through proactive technical guidance and a client-first approach.
- Architected and executed **data-center-to-data-center migrations** of large Oracle E-Business Suite estates (RAC → non-RAC; ASM → NetApp via standby failover) across 8 production and non-production environments with minimal downtime.
- Engineered automated disaster recovery achieving a **1-hour RPO and 4-hour RTO** using storage-snapshot-driven shell automation.
- Built **end-to-end clone automation** spanning storage, database, and application tiers — collapsing multi-team, multi-day refreshes into a single automated workflow.

## Lead Applications DBA / Technical Lead · VeriSign, Inc.

2002 – 2012

*Reston, VA / Mountain View, CA*

- Technical lead and mentor for on-shore and off-shore DBA teams across a large external-facing Oracle ERP estate; standardized and automated database management, tuning, and cloning to maximize operational throughput.
- Architected **single sign-on** (Active Directory), Virtual Private Database, and DMZ configurations securing external-facing iSupport applications, and automated a highly-available external price-engine.
- Integrated **ADP, PayPal, and D&B** with Oracle ERP; configured custom and PCP concurrent managers for resilient batch processing.
- Led applications and data workstreams for **acquisitions and divestitures** — standing up new infrastructure (later divested to Symantec) on compressed timelines.

## EARLIER CAREER

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Progressive senior DBA, architect, and systems-engineering roles — Electronic Arts, JDS Uniphase, Genentech, The Doctors Company, QAD, Exodus Communications, WebTV Networks, Quovera, and Wipro Infotech (India) — building deep foundations in VLDB performance engineering, HA/DR, replication, and large-scale Unix systems administration. (1991 – 2002)

## EDUCATION & CERTIFICATION

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**B.S., Computer Science & Engineering** · Oracle Certified Professional (OCP) — Database Administration