

ARUN VELIGATLA

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PROFESSIONAL SUMMARY

Senior AI engineer specializing in multi-agent orchestration, agentic safety, and LLMOps for regulated, high-scale environments. Built two end-to-end agentic platforms: PolicyMind, a production four-agent RAG system containerized with Docker and instrumented with Langfuse tracing, achieving 92.5% citation accuracy, 100% escalation recall, and CI-enforced RAGAS blocking gates; and CollectMind, a LangGraph-based autonomous vehicle telemetry policy engine with COVESA VSS validation, confidence-gated deployment, and fleet-scale multi-tenant architecture.

Hands-on builder across the full agentic lifecycle: ReAct-style tool-calling orchestration, typed state objects, conditional retry routing, NLI-based hallucination verification, PII redaction with referential consistency, LlamaGuard jailbreak detection, versioned prompt registries with A/B routing, and RAGAS-gated CI. Backed by 11+ years shipping production SaaS and distributed systems in HIPAA-regulated healthcare. Led the TRAKnet-to-EMA EHR migration: millions of patient records, zero data loss.

TECHNICAL SKILLS

Languages: Python, C#, TypeScript, JavaScript, Java, SQL

Agentic AI / GenAI: LangGraph, Multi-Agent Orchestration, ReAct Reason-Act Loops, Tool-Calling Orchestration, Versioned Prompt Registry, Model-Agnostic Routing, A/B Testing, RAG, GPT-4o (structured output),

text-embedding-3-large, Qdrant, BM25 + Vector Hybrid Retrieval, RRF, Cross-Encoder Reranking, RAGAS, LLMOps

Agentic Safety & LLM Security: LlamaGuard (jailbreak detection), NLI-based hallucination verification, PII redaction with referential consistency, confidence-gated deployment, action authorization registries, compliance-guard architecture

ML / Data Science: Scikit-learn, Isolation Forest, Time-Series Anomaly Detection, Feature Engineering, Model Training, Tuning, and Evaluation

Back-End: FastAPI, .NET Core / .NET Framework, ASP.NET Core Web API, Entity Framework, Spring Boot, REST APIs, WCF, Swagger / OpenAPI, Microservices, Event-Driven Architecture

Cloud & Deployment: Azure AI Foundry, Azure (App Insights, Cosmos DB), AWS (Bedrock, Lambda, SQS/SNS, DynamoDB, S3, SES), Docker, Kubernetes, GitHub Actions, Azure DevOps

Data / Streaming: PostgreSQL, TimescaleDB, SQL Server, T-SQL, Cosmos DB, MySQL, Qdrant, Elasticsearch / Kibana, Apache Kafka (messaging), Redis

Observability: Application Insights, Prometheus, Grafana, Langfuse, RAGAS CI gates, xUnit, Moq

Front-End: React, Angular, TypeScript, SPA Architecture, WPF, UWP, XML, XAML, WinForms (desktop)

PORTFOLIO PROJECTS

Agentix ERP: Multi-Tenant SaaS Platform with Agentic AI Onboarding

2026

.NET 10 | C# | ASP.NET Core | Angular 17 | TypeScript | MySQL 8 | Amazon Bedrock | Amazon SES | Hangfire | Docker Compose | GitHub Actions | xUnit

Greenfield multi-tenant SaaS ERP with a 10-step autonomous onboarding agent (Orchestrator, DocumentParser, HelpTextGenerator, Provisioner) that parses uploaded Word/PDF forms via Amazon Bedrock with a deterministic rule-based fallback, writes per-tenant column definitions to a zero-migration JSON settings engine with ReaderWriterLockSlim concurrency, and provisions company admins with crypto-random credentials delivered via Amazon SES. HMAC-SHA256 signed portal tokens (120h expiry, non-reusable) gate external approval flows. CI-enforced GitHub Actions pipeline (xUnit + PowerShell) blocks PRs on 114 unit tests and 48 end-to-end API tests with full tenant isolation.

CollectMind: Agentic Vehicle Telemetry Policy Engine

2025

Python | LangGraph | GPT-4o | FastAPI | PostgreSQL | TimescaleDB | Redis | Kafka | RAGAS | COVESA VSS

Four-node LangGraph stateful engine (Orchestrator, Generator, Validator, Deployer) that autonomously generates, validates against COVESA VSS + ECU capability constraints, versions in an immutable PostgreSQL registry, and deploys vehicle telemetry collection policies. Kafka ingest with Isolation Forest anomaly detection, Redis hot store, Timescale DB cold store, and a confidence-gated autonomous feedback loop; CI-enforced RAGAS gates block PRs on VSS pass rate and schema completeness.

PROFESSIONAL EXPERIENCE

Senior Software Engineer | Modernizing Medicine (ModMed)

2021 to Present

PolicyMind: Agentic RAG Platform *Dec 2025 - Feb 2026*

Python 3.11 | OpenAI GPT-4o | Qdrant | FastAPI | React | PostgreSQL | Langfuse | Docker Compose | RAGAS | GitHub Actions

- Architected four-agent LangGraph system (orchestrator, domain-router, synthesis, compliance-guard) with typed DiagnosticSession state object, ReAct-style tool-calling orchestration, conditional retry routing, and full execution auditability.
- Delivered citation-first hybrid retrieval (Qdrant + BM25 + RRF + cross-encoder reranking) achieving 92.5% citation accuracy at p95 <800ms; compliance-guard agent enforces NLI-based hallucination verification with 100% recall on escalation-critical queries.
- Containerized deployment with Docker serving production queries, observability via Langfuse tracing. 167 passing tests, CI-enforced blocking gates: faithfulness >=88%, context recall >=90%, escalation recall = 100%.

EMA Clinical Workflows & mmRxService: Electronic Prescribing

Mar 2025 to Nov 2025

Java | Spring Boot | Angular | AWS Lambda | SQS/SNS | Kafka | DynamoDB | Swagger / OpenAPI | Okta | SureScripts

- Developed Angular UI components for clinical workflow and prescription modules; translated 9 years of TRAKnet production expertise into EMA architectural guidance on charting, billing, and scheduling, preventing rework on clinical workflow design.
- Applied NemoRx SureScripts architecture patterns to accelerate team ramp-up on mmRxService; built event-driven prescription processing with AWS SQS/SNS and advised on DEA/payer-compliant RBAC with Okta.

EHR Data Migration: TRAKnet, Sammy & Exscribe to EMA

Apr 2021 to Mar 2025

.NET 6.0 | C# | Entity Framework | SQL Server 2022 | SSIS | ETL | Azure | xUnit

- Led TRAKnet-to-EMA migration end-to-end: translated complex clinical domain requirements into scalable data solutions across hundreds of podiatry practices, millions of patient records, zero data loss across all production cutovers.
- Designed ETL workflows normalizing patient, clinical, and billing data across three structurally incompatible EHR schemas; built automated validation pipelines eliminating manual spot-checking and enabling on-schedule execution.

Software Developer / Senior Software Developer | Nemo Health LLC

Dec 2014 to Apr 2021

NemoRx: E-Prescribing SaaS Platform

May 2018 to Apr 2021

.NET Core | React | C# | Entity Framework | SQL Server | Cosmos DB | Swagger / OpenAPI | Elasticsearch | Okta | Exostar | SureScripts | Azure

- Owned full stack of multi-tenant SaaS e-prescribing platform: built React prescribing frontend from scratch (creation, review, prior auth, medication history) and Cosmos DB partition-key multi-tenant isolation for practice-level data namespacing.
- Integrated SureScripts for real-time medication history and e-prescribing with production-grade retry logic; documented all .NET Core Web API endpoints with Swagger / OpenAPI for internal and partner integrations and shipped Elasticsearch-backed search and Kibana operational dashboards for prescription audit trails. Implemented Okta + Exostar identity federation satisfying DEA EPCS requirements.

TRAKnet: Podiatry EHR Platform

Dec 2014 to Apr 2021

.NET Framework | C# | WPF | UWP | XAML | WinForms | Entity Framework | SQL Server 2008 to 2016 | Crystal Reports

- Designed and shipped WPF / XAML and WinForms desktop UI for clinical charting, billing, scheduling, and practice management across hundreds of active podiatry practices; modeled domain entities with Entity Framework over SQL Server for high-frequency transactional workloads.
- Led distributed offshore engineering team across sprint planning, code reviews, and releases; modernized legacy .NET modules with significant tech debt without disrupting production clinical workflows.

Software Developer | ATCO Industries INC

May 2014 to Sep 2014

- Developed enterprise .NET applications and SQL Server data models supporting operational workflows.

EDUCATION

MS, Computer Science and Engineering | Oakland University, Michigan

2013 to 2015

BS, Computer Science and Engineering | Jawaharlal Nehru Technological

2008 to 2012

University, India