

SEMMAL PALANISAMY

Senior Software Engineer & Technical Product Manager | AI Products, Agentic Systems & Platform Architecture

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AI Product Manager and Senior Software Engineer with 7+ years owning zero-to-one products end-to-end, from architecting the system and defining the evaluation bar to setting the roadmap, across B2B SaaS, supply-chain, and EdTech platforms. Have shipped AI products at production scale on both sides of the stack: architected a RAG-based compliance agent with agentic, function-calling workflows that automated regulatory document review for US K-12 institutions, and built a GenAI-powered analytics layer that cut manual operations reporting from days to hours for a 3,400-location Canadian health & wellness supply chain. Hands-on with LLM orchestration, RAG architectures, and evaluation frameworks, comfortable in the prompts and the eval traces as much as the roadmap. Equally credible arguing a model or architecture trade-off with a staff engineer and defending product strategy to a VP: the rare hybrid who has both built the system and owned the outcome.

SKILLS

AI & LLM Systems	Agentic Workflow Design, Retrieval-Augmented Generation (RAG), LLM Integration & Orchestration, Prompt Engineering, Evaluation Frameworks & Model/Output Validation, Human-in-the-Loop Design, GenAI-Powered Analytics
Product Management	0-to-1 Product Ownership, Roadmap Strategy, PRD & Spec Authorship, RICE Prioritization, Cross-Functional Leadership, Stakeholder Management, GTM Strategy
Engineering & Architecture	Python, FastAPI, PHP / Laravel, REST API Design, Microservices, System Architecture, Multi-Tenant SaaS, Stripe Connect / Payments Infrastructure
Data & Experimentation	SQL, Mixpanel Cohort Analysis, A/B Testing, Data-Driven Decision Making
Domain & Compliance	Supply Chain & Warehouse Systems, Inbound/Outbound Logistics, Regulatory Compliance (K-12 EdTech), Data Privacy
Tools	Jira, Linear, Notion, Figma, Postman, Google Analytics, Mixpanel, LangChain, LangSmith, OpenAI / Claude API Console, Retool

EXPERIENCE

Trigent Software | Remote, India Oct 2024 – Present Senior Software Engineer & Technical Product Manager

Client Engagement: CanPrev (health & wellness supply chain, acquired by Apotex Inc., Feb 2025) ~Sep 2025 – Present

- **Cut manual operations-reporting time from days to hours** by architecting and shipping a GenAI-powered analytics layer that converts raw shipment, inventory, and fulfillment data into natural-language insights for operations and finance stakeholders, replacing spreadsheet-based reporting.
- **Defined the quality bar for AI-generated outputs**, including accuracy, freshness, and traceability of source data, and built validation checks so stakeholders could trust AI-generated summaries without manually re-verifying the underlying numbers.
- **Owned the inbound/outbound shipment platform end-to-end** as both engineer and product owner: architected FastAPI microservices for shipment-event processing, integrated with the core Laravel platform via REST APIs, and authored the specs and roadmap that engineering built from.

- **Set product priorities using RICE and direct stakeholder input**, working with CanPrev's operations and finance leadership to translate logistics and reporting requirements into scoped engineering deliverables and success metrics.

Client Engagement: Public School Works (K-12 EdTech compliance platform) Oct 2024 – ~Sep 2025

- **Reduced manual compliance-document review time** by architecting a RAG-based compliance agent (“Compliance Copilot”) that auto-extracted and classified regulatory clauses from institutional documents using an API-driven LLM parsing pipeline, with retrieval grounded in the source document to keep outputs traceable and auditable.
- **Designed agentic, function-calling workflows and human-in-the-loop escalation patterns** for AI-assisted compliance review, so routine clause classification was handled autonomously while ambiguous or high-risk cases were escalated to compliance reviewers, and formulated modular configuration logic that insulated the core platform from ad-hoc US regulatory changes.
- **Increased engineering throughput by 50%** by introducing AI-assisted documentation and standardizing data-backed PRDs with strict edge-case definitions, cutting mid-sprint rework and SDLC handoff friction.
- **Reduced technical debt by 30% and improved NPS** by defining and executing a “Stability First” roadmap, including a cross-functional workflow performance audit that protected enterprise retention.

Omnify | Bengaluru, India Feb 2021 – Oct 2024

Senior Software Engineer & Technical Product Manager, Growth & Core Platform

- **Drove a 22% increase in MRR within two quarters** by owning 0-to-1 product and engineering for the native Zoom integration, capturing post-pandemic market demand end-to-end.
- **Created a new high-margin, transaction-fee revenue stream** by architecting the Omnify Payments integration on Stripe Connect, moving global merchants from external processors to a native checkout and lifting ARPU/upsell conversion by 18%.
- **Protected customer LTV and reduced churn-driven capital loss** by designing and shipping a wallet-based refund architecture (Omnify Credits) with automated fraud-pattern detection logic.
- **Unlocked 30% adoption growth in the Enterprise segment across US and APAC markets** by engineering a multi-tenant SSO architecture with granular role-based access control (RBAC).
- **Cut activation drop-off by 40% and boosted Day-1 retention** by redesigning the first-time user onboarding flow using Mixpanel cohort analysis to identify friction points.
- **Reduced client onboarding time by 60%** by unifying customer support tooling and automating first-response triage.

Freelance | Coimbatore, India May 2019 – Jan 2021

Freelancer, Full-Stack Engineer & Product Lead

- **Owned the full product lifecycle for 15+ digital products** across retail and service businesses, spanning discovery, architecture, build, and launch, as the sole engineer and product decision-maker.
- **Cut manual operational overhead by 40% for retail clients** by building a custom inventory-synchronization engine with rules-based demand logic.

EDUCATION

B.E., Computer Science and Engineering | APGI, Affiliated with Anna University, Coimbatore, India | 2019