Nagaraj Muthuraj

Solution Architect & Product Engineer | GenAI & Agentic AI

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Professional Summary

Solution Architect and Product Engineer with over **7 years of experience in web development**, primarily working with frontend technologies, full-stack applications, and enterprise solutions. Strong background in Nest, Node, Express, Vue & Nuxt, React & Next, Angular, backend integration, microservices, micro frontend and application architecture. Experienced in working directly with clients, understanding business requirements, solving technical challenges, and guiding development teams. Over the past **3 years, I have focused on AI and Generative AI development**, building AI agents, multi-agent systems, RAG solutions, and automated workflows using LangGraph, Langflow, FastAPI, and vector search technologies. I have worked with OpenAI and OpenAI-compatible models, Claude, Gemini, AWS Bedrock, and locally hosted LLMs to integrate AI capabilities into real-world business applications. My experience combines hands-on development, system design, performance optimization, and technical leadership, with a focus on building practical, scalable, and maintainable solutions that address business needs.

Technical Skills

Category	Technologies & Skills
Generative AI & Agentic AI	LangGraph, Langflow, AI Agents, Multi-Agent Systems, LLM Integration, RAG, Prompt Engineering, Embeddings, Vector Search, Model Context Protocol (MCP), AI Workflow Automation
AI Models & Platforms	OpenAI ChatGPT, Anthropic Claude, Google Gemini, Gemma, Local LLMs, AWS Bedrock
Solution & Application Architecture	Solution Architecture, System Design, Microservices, Event-Driven Architecture, Serverless Architecture, Frontend & Micro-Frontend Architecture, REST APIs, GraphQL
Frontend & Web Development	TypeScript, JavaScript, React & Next, Vue & Nuxt, Angular, Ionic, HTML, CSS, SCSS, Progressive Web Applications (PWA)
Backend Development & APIs	Python, FastAPI, Node, Express, Nest, PHP, Laravel, ASP.NET, VB.NET, API Development & Integration, Background Workers, GraphQL
Databases, Search & Data Engineering	MySQL, PostgreSQL, MongoDB, Redis, Elasticsearch, Typesense, Apache Airflow, ELT Pipelines, Data Processing & Optimization, RabbitMQ
Cloud, DevOps & Infrastructure	AWS (Bedrock, Lambda, S3), DigitalOcean (Kubernetes, AI Infrastructure, Serverless Functions), Docker, Kubernetes, GitHub Actions, CI/CD
Security & Enterprise Integration	Keycloak, Authentication & Authorization, OpenText Content Management, Third-Party API Integration, Slack Integration, Shopify, Magento 2, Redmine, Prisma
UI/UX & Design	UI/UX Design, User-Centered Design, Responsive Web Design, Application Interface Design, Wireframing, Prototyping
Performance & Scalability	Application Performance Optimization, Database Query Optimization, Kubernetes Workload Optimization, Resource Utilization, Scalability & Reliability, Workload Optimization
Development Practices	Testing & Debugging, Technical Problem-Solving, Code Optimization, Technical Documentation, Application Deployment

Professional Experience

Founder & AI Developer Tools Engineer

Taurosoft | Theni, Tamil Nadu, India | October 2026 - Present

- Developing AI-powered tools to make Unity game development, code verification, and testing easier and more reliable.
- **Project Doctor:** Building a Unity project diagnostics and repair tool using Rust, Unity Editor integration, and Model Context Protocol (MCP). The tool helps detect missing scripts, broken asset references, metadata issues, and potential performance problems in C# code.
- Working on **AI Game Tester**, a new tool focused on improving and automating game testing workflows.
- Creating small Unity games to experiment with AI-assisted development, test the tools in real projects, and identify areas for improvement.
- Exploring ways to use AI and automation to reduce manual work, catch issues earlier, and improve the overall game development process.

Solution Architect & Team Lead

SuperBotics Multi Tech Private Limited | Virudhunagar, Tamil Nadu, India | November 2025 – September 2026

- Work with clients to understand their business needs, define the solution, and provide technical guidance to the development team.
- Design application and AI architecture, including system design, integrations, data flow, and technology selection, with a focus on scalable and maintainable solutions.
- Coordinate team activities, prepare project timelines and technical documentation, resolve technical blockers, and provide technical guidance across multiple projects.
- **U.S. Client | Data ELT & Agentic AI Platform Development:** Designed and developed the **Hermes AI agent** using **LangGraph** and FastAPI, integrating **AWS Bedrock**, Gemma and supporting ChatGPT-compatible models to create, modify, and execute data pipelines. Implemented support for local LLMs and secure MCP-based access, enabling integration with custom dashboards and external applications.
- **U.S. Client | AI Workflow Automation:** Designed and developed an AI-powered document processing workflow using Google Gemini and Anthropic Claude to process DOCX, PDF, and XLS files and generate deployment-ready packages for OpenText Content Management, reducing form creation time by **90%**.
- **France Client | AI Agent Development:** Designed and developed an end-to-end **AI architecture** using ChatGPT & Claude and **Langflow**, implementing a **multi-agent** workflow to analyze annual budget and actual financial data, identify business growth opportunities, and assess potential financial risks to support data-driven business decisions.

Lead Frontend Developer

SuperBotics Multi Tech Private Limited | Virudhunagar, Tamil Nadu, India | June 2023 – November 2025

- Worked with clients to understand requirements, shape technical solutions, and provide implementation guidance to the development team.
- **France Client | Financial Application Performance Optimization:** Analyzed and resolved a major performance bottleneck in the data summarization workflow by re-engineering legacy processing logic into optimized MongoDB aggregation pipelines. Reduced processing time to **3–5 seconds** for **200,000+ records**, significantly improving data processing efficiency, application responsiveness, and scalability for larger datasets.
- **France Client | E-commerce AI Search Optimization:** Designed and implemented an AI-powered product search solution for **400,000+ existing products** using Typesense vector search. Developed a self-hosted data transformation pipeline to extract product data from MySQL, convert it into structured Markdown, generate vector embeddings, and index them in Typesense. Automated the pipeline using Apache Airflow, with parallelized processing jobs to handle product batches efficiently. Optimized the legacy search architecture to reduce reliance on resource-intensive MySQL queries and improve search scalability and responsiveness.
- **France Client | E-commerce AI Chatbot & Multi-Agent Support System:** Designed and developed an AI-powered conversational support system integrated with the existing Crisp chat application through a dedicated NestJS microservice, with Keycloak-based authentication and authorization. Implemented a GPT-4-powered Retrieval-Augmented Generation (RAG) pipeline using Elasticsearch to answer product-related queries across a catalog of **400,000+ products**. Developed an AI-driven knowledge extraction pipeline to process nearly **10 years of historical support conversations**, identify recurring product issues and validated solutions, and build a reusable knowledge base in collaboration with product owners and technical support teams. Designed a multi-agent workflow with specialized Manager, Support, and Product agents to understand user intent, guide troubleshooting and self-service issue resolution, explain product functionality, and assist customers in identifying and purchasing replacement parts.
- **France Client | E-commerce AI Warranty Support System:** Collaborated closely with the backend team to modernize an existing warranty support workflow built on legacy PHP and Laravel 12. Analyzed the hybrid architecture and progressively implemented backend services, authentication integration between legacy and Laravel components, dedicated APIs, and a

Vue.js interface for AI-powered warranty processing. Developed dedicated NestJS microservices for AI requests and integrated Keycloak for secure authentication. Engineered an AI-powered document extraction workflow using prompt engineering to process invoices and purchase receipts in **French and English** across **15+ document formats**, including PDFs and images. Extracted structured JSON data from uploaded documents and product identification cards to automate product identification and warranty eligibility verification, replacing a largely manual process that previously required **one or more days** with a streamlined, AI-assisted verification workflow.

- **France Client | Financial Application Performance & Scalability:** Improved backend workload management by implementing background workers using Express.js and RabbitMQ to process asynchronous tasks efficiently. Optimized Kubernetes pods and container configurations to better handle varying workloads, improve resource utilization, and enhance application scalability and reliability.
- **France Client | Internal Cost Optimization & Task Automation:** Worked directly with the client to improve internal processes and reduce costs by migrating around three years of task data from Monday.com to Redmine using NestJS microservices. Added a menu bar notification feature to track task counts and integrated Slack to share daily task completions, team member updates, and timesheet reports. Also implemented notifications for the Product Owner and IT Team Lead to track pending tasks and identify delays based on the number of hours outstanding.
- **France Client | Microservices, Frontend Architecture & AI Engineering:** Developed microservices for internal communication and integrated Keycloak for authentication and access management. Designed and built a proof of concept (PoC) for a micro-frontend architecture using Lit 2. Also developed PoCs using DigitalOcean's AI infrastructure, exploring LLM integration, multi-agent AI workflows, and serverless functions to support chatbot conversations.
- **France Client | Platform Modernization & IoT Innovation:** Developed a PoC to evaluate migrating the existing legacy business catalog system to Shopify. Implemented an IoT PoC integrating the Tuya Android app with power tools and smart home devices.
- Worked with GitHub Actions and workflows to automate build and deployment processes.
- Optimized Docker containers and Kubernetes workloads to improve application performance, resource utilization, and scalability.
- Managed deployment workflows for frontend applications, backend services, and microservices-based architectures.

Frontend Developer

SuperBotics Multi Tech Private Limited | Virudhunagar, Tamil Nadu, India | May 2021 – June 2023

- Developed web and progressive web applications using Vue, NextJS/React, GraphQL, Express, MySQL, and MongoDB.
- Worked with Magento 2 PWA and multi-store implementations.
- **France | Fintech Application:** Developed a fintech application using Vue.js, Kendo UI, Express.js, and MongoDB, with background workers for asynchronous processing. Deployed and managed the application on DigitalOcean Kubernetes.
- **US: Business booking platform** – Developed a business booking platform using Next.js, Ionic, Laravel, and MySQL, leveraging AWS Lambda for serverless backend processing.
- **Europe: E-commerce PWA** – Magento 2 PWA, React, GraphQL.
- **UK: E-commerce platform** – Magento 2, PHP.
- **Europe: AC support system** – Developed application features using Next.js, Prisma, GraphQL, and MySQL, with AWS S3 for media storage.

Senior Android Developer

payAgri Innovations Private Limited | Theni, Tamil Nadu, India | February 2021 – May 2021

- Developed frontend and backend solutions for a wholesale platform across Android and web applications using Ionic 5, Angular, Express.js, Laravel, and MySQL. Also developed the Android application for Kiranas E-commerce.

Full Stack Android Developer

Nextesign Technologies | Periyakulam, Tamil Nadu, India | July 2020 – January 2021

- Developed Android and web applications for employee and customer management, including location tracking and attendance features, using Ionic 5, PHP, and MySQL.
- Developed a virtual business card platform for Android and web using Ionic 5, Express.js, and MySQL.

Android Developer

payAgri Innovations Private Limited | Theni, Tamil Nadu, India | July 2019 – July 2020

- Optimized legacy screens using core UX principles, improving app performance by 40%.
- Prototyped and developed more than four application features within a year.
- Projects: Farmer Data Collection App — Developed using Ionic 3 and Core PHP, with offline data collection capabilities. Farm Gate Transactions App — Developed using Ionic 3 and PHP to support farm gate transaction management.

Professional Skills

Category	Skills & Competencies
Technical Leadership & Management	Technical Leadership, Team Coordination, Project Planning, Timeline Management, Task Prioritization, Problem-Solving, Technical Decision-Making, Workload Optimization, Cross-Team Coordination, Adaptability, Time Management
Communication & Collaboration	Client Collaboration, Business Requirements Analysis, Technical Communication, Cross-Functional Collaboration, Stakeholder Management, Technical Guidance, Solution Presentation, Technical Documentation

Education

Degree / Diploma & Institution	Percentage / Grade
B.E. in Computer Science and Engineering | First Class Theni Kammavar Sangam College of Technology | Theni, Tamil Nadu, India June 2016 – May 2019	**6.94/10**
Diploma in Computer Engineering | First Class with Distinction Theni Kammavar Sangam Polytechnic College | Theni, Tamil Nadu, India June 2014 – May 2016	**82.60%**
Higher Secondary (XII) Government Higher Secondary School, Kamayagowndan Patti | Cumbum, Theni, Tamil Nadu, India June 2012 – May 2013	**50%**
SSLC (X) Government Higher Secondary School, Thevaram | Theni, Tamil Nadu, India June 2010 – May 2011	**63.2%**

Courses & Certifications

Course / Certification	Issuer	Date / Issued
Software Architecture & Design of Modern Large Scale Systems	Udemy	August 2026
The Agentic AI Engineering Masterclass 2026	Udemy	May 2026
Claude Code in Action	Anthropic	July 2026
Introduction to Model Context Protocol	Anthropic	July 2026
Introduction to Agent Skills	Anthropic	June 2026
Building with the Claude API	Anthropic	June 2026
Claude Code Beginner to Pro: Agentic Coding & Development	Udemy	March 2026
Diploma in Graphic Design	Ideal Infotech	2013 – 2014
Diploma in Computer Programming	Ideal Infotech	2014 – 2015

Projects

Augmented Reality Mobile Game | B.E. Final Year Project | 2019

- Developed an Android augmented reality game using Unity 3D. Created 3D game assets using Blender and integrated Vuforia 7 SDK for ground-plane tracking and surface detection.

Voice-Controlled Web Browser | Diploma Final Year Project | 2015

- Developed a desktop web browser using VB.NET and Visual Studio 2010, with voice-based search and navigation features.

Academic & Institutional Web Applications | 2015 - 2019

- Developed a college gallery website using PHP and MySQL. Also built web applications for hospital management, LPG gas booking, and online computer shopping using ASP.NET and MySQL.

Honours and Awards

- **First Place – Technical Project Presentation (2016):** Won first place for presenting the voice-controlled web browser project at Enthusia ’16, KPRIET, Coimbatore.
- **Third Place – IPAA Divisional Hockey Tournament (2014–2015):** Secured third place in the IPAA Madurai Division Men’s Hockey Tournament.
- **Runner-up – Theni District Hockey League Tournament (2014–2015):** Finished as runner-up in the Theni District Hockey League Tournament.

Declaration: I hereby declare that all above given particulars are true and correct to the best of my knowledge and the belief.

Place: Cumbum, Theni, Tamil Nadu, India.

Date:

Yours truly

Nagaraj Muthuraj