

TAMIL SELVAN MP

Full Stack AI Engineer

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OBJECTIVE

AI-First Full Stack Engineer specializing in Generative AI systems and end-to-end product engineering. Strong expertise in building LLM-powered platforms, AI agents, RAG pipelines, and automation engines, followed by delivering them as production-ready full-stack applications using React, Node.js, and scalable backend architectures. Proven ability to design AI-driven workflows, no-code builders, real-time systems, and analytics dashboards, with deep experience in healthcare and communication platforms.

EXPERIENCE

AI ML Engineer June 2024
S10 Health *Chennai, India*

- Designed and built production-grade, AI-first systems for healthcare, telecom, and operations, with secure system access, including multi-tenant AI communication platforms, autonomous support agents workflow orchestration, and analytics to measure AI vs human performance and automation impact.
- Key projects: Built mini replica of N8N No-Code Flow Canvas application, including AI-powered inbound/outbound voice agents, IVR, intelligent call routing, live transfers, SMS, Emails, chat, fax automations, external function calling with endpoints (api/Webhooks), Technical Support AI (SSH-Based), Internal chat application all features similar to whatsapp, External customer support chat application with complex edge case scenarios (similar to zendesk and Rhinogram), Medical Scribe automation, automated medical coding (CPT, ICD, Modifiers) and workflow automation.
- Developed comprehensive databases and pipelines to streamline AI projects, designed multiple RAG-based applications (with and without LangChain), and built full-stack systems using React frontends and Node.js backends, applying core design patterns such as Singleton, Factory, Adapter, and Circuit Breaker to ensure scalability, fault tolerance, and clean integration across AI, telephony, and enterprise services.

Project Manager (Intern) May 2023 - May 2024
RecruitNxt *Delhi, India*

- Managed a team of 13 members across three projects, ensuring seamless execution and timely delivery.
- Orchestrated task assignments, conducted scrum events, and maintained operational efficiency.
- Earned the AVID LEARNER Award during my tenure.

SKILLS

AI Tools & Techniques: LangChain toolkits, LangGraph, HuggingFace Agents, RAG(CRAG, Self, Adaptive, Reflection), Prompt Tuning

Machine learning, Deep learning: Scikit-learn, Pytorch

Frontend: React.js, Redux, Zustand, Re-render Control, Zord, Lazy Loading, Pagination.

Backend & Systems: Python, Node.js, Typescript, SQL, REST APIs, WebSockets, Multi-Tenant Architecture, System Design, Authentication, Authorization, RBAC, Numpy, Pandas.

Business Intelligence and Visualization: Tableau, Matplotlib, Seaborn, Plotly

Managerial Skills: Problem solving, Data Analytics, Decision Making, SDLC, Operations, Attention to Details

PROJECTS

SmartComm – AI Communication Platform (Flagship)

Description:

Designed and built a multi-tenant AI-powered communication platform for healthcare practices, similar to n8n Flow Canvas allowing non-technical customer to build own AI flows, AI assistants acting as a 24/7 virtual patient care coordinator. Enabled AI-driven call handling, IVR logic, AI agents, live transfers, voicemail, SMS/MMS continuation, and analytics through a no-code flow builder and real-time execution engine.

Technologies: React, React Flow, Node.js, MySQL, Telnyx, Twilio, Plivo, Speech-to-Text, Text-to-Speech, LLMs, RAG, REST APIs, Recharts, Webhooks, Event-driven Architecture.

Technical Support AI Assistant (SSH-Based)

Description:

Built a secure AI assistant capable of accessing systems via SSH in controlled environments to inspect logs, execute diagnostics, and assist in issue resolution. Implemented command validation, access control, and safety layers to prevent destructive operations.

Technologies: Node.js, SSH, LLMs, Secure Sandboxing, Access Control Systems.

HIPPA Secure Internal Team Chat Application

Description:

Designed and developed a real-time internal chat system for enterprise teams with 1:1 and group messaging, typing indicators, read receipts, Edit message, Delete for Me and every one, React to message, Reply to message, presence tracking, media sharing, and message persistence. Integrated chat context with AI workflows for faster coordination.

Technologies: React, WebSockets, Node.js, MySQL, Real-Time Messaging.

External Customer Support Chat Platform

Description:

Designed and developed a scalable customer support chat and ticketing system for healthcare practices, enabling end-to-end conversation tracking, user and group assignment, @mentions, tagging, internal notes, secure messaging, SMS three-way communication, and digital form (eForm/PDF) distribution with submission tracking, backed by session recovery, HIPPA secure, encrypted message storing and role-based access control.

Technologies: React, Node.js, WebSockets, LLMs, Role-Based Access Control.

Fax Management Automation System

Description:

Built an AI-driven fax processing platform to classify documents, extract structured data, detect urgency, and automate routing. Implemented role-based access, audit logs, permissions, and compliance-focused workflows for healthcare operations.

Technologies: LLMs, Tesseract OCR, Llama vision, Node.js, MySQL, S3, Workflow Engines.

Insurance AI Assistant

Description:

Developed an AI assistant for insurance workflows, handling policy inquiries, competitor comparison, Personalise Insurance Quote generation, AI based training for new insurance agents, claim guidance, and customer support. Against performance dashboard and data visualization Implemented RAG-based knowledge retrieval and tool calling to trigger structured downstream insurance operations.

Technologies: LLMs, RAG, Vector Databases, Node.js, API Integrations.

EDUCATION

Master of Business Administration in Operations, SRM University (8.4 CGPA)

2021 - 2023

Bachelor of Engineering in Mechanical Engineering, St.Peters University (6.96 CGPA)

2017 - 2021

ACHIEVEMENTS & CERTIFICATIONS

- Certified in Prince2 Project Management
- Awarded AVID LEARNER for outstanding project management during the tenure at RecruitNxt.
- Recognized for developing comprehensive databases and completing tasks in shorter deadlines.