

MUHAMMED SUHAIL EA

Full Stack & AI Engineer

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PROFESSIONAL SUMMARY

Full Stack & AI Engineer with 6+ years of experience building enterprise SaaS, HR Tech, and conversational AI platforms. Currently building the Maaden Teams AI Chatbot — an enterprise conversational AI platform inside Microsoft Teams — at HITEK AI; previously built Flowtrail AI, an agentic data analytics and AI assistant platform. Specialised in LLM engineering: RAG pipelines, agentic workflows with LangGraph, Model Context Protocol (MCP) integrations, and production LLM systems using OpenAI, Anthropic Claude, and Vercel AI SDK. Strong TypeScript foundation across React, Vue, and Next.js frontends and Node.js, NestJS, and FastAPI backends, with hands-on Kubernetes, CI/CD, and microservices experience across the full software development lifecycle.

PROFILE HIGHLIGHTS

- Proven expertise in handling the **complete software development lifecycle** — from requirement analysis and architecture through deployment, monitoring, and maintenance.
- Built AI-driven products using **OpenAI (GPT-4o), Anthropic Claude, Grok (xAI), and LangGraph**, with deep experience in Retrieval-Augmented Generation (RAG) and Generative AI integration via Vercel AI SDK, LangChain, and Gemini.
- Proficient in **JavaScript and TypeScript** with hands-on experience across modern frameworks: React.js, Vue.js, Svelte, Redux, Vuex, Zustand, and TailwindCSS.
- Experienced with **Next.js, Nuxt, and SvelteKit** meta-frameworks for building enterprise-scale applications with SSR, SSG, and edge rendering.
- Strong backend engineering using **Node.js, Express, NestJS, FastAPI, and GraphQL**, including ORM tooling with Prisma, TypeORM, Sequelize, and Drizzle.
- Expertise in **GraphQL (Apollo), REST APIs, WebSockets, and Webhooks** for reliable data exchange across distributed systems.
- Experience with **Bun.js and Deno** as alternative runtimes for high-performance backend execution in modern JavaScript stacks.
- Built and managed **microservices, event-driven architectures, and monorepo-based solutions** for multi-team enterprise products.
- Worked with **Redis, RabbitMQ, and BullMQ** for caching, message queues, and background job processing at scale.
- Practical experience managing and maintaining **Kubernetes clusters** with Docker and Docker Compose for high-availability deployments.
- Experienced in version control and automation using **Git, GitHub, GitHub Actions, and CI/CD pipelines**.
- Strong database design skills across **MySQL, PostgreSQL, MS SQL Server, MongoDB, Redis, Supabase, and IndexedDB**.
- Integrated secure authentication flows using **OAuth 2.0, JWT, Azure MSAL, and Supabase Auth**.
- Passionate about **R&D in emerging technology**, writing clean maintainable code, and delivering high-performance applications.

CORE AI / LLM SKILLS

LLM Platforms: OpenAI (GPT-4o), Anthropic Claude, Gemini, Grok (xAI), Mistral, Cohere

Agentic AI: LangGraph, LangChain, multi-step reasoning agents, tool / function calling, Model Context Protocol (MCP), agentic workflows

RAG & Retrieval: RAG pipelines, vector databases (Qdrant, pgvector), embeddings, semantic search, chunking strategies, LlamaIndex

LLM Engineering: Vercel AI SDK, structured outputs, prompt engineering, guardrails & grounding, model routing, token & cost tracking, LLM evaluation

CORE FULL STACK SKILLS

Languages: TypeScript, JavaScript, Python

Frontend: React.js, Next.js, Vue.js, Nuxt.js, SvelteKit, Redux, Zustand, TanStack Query, TailwindCSS, HTML5, CSS3

Backend: Node.js, NestJS, Express, FastAPI, GraphQL (Apollo), REST APIs, WebSockets, Webhooks

Databases: PostgreSQL, MySQL, MS SQL Server, MongoDB, Redis, Supabase

DevOps & Cloud: Docker, Kubernetes, GitHub Actions, CI/CD, Azure, AWS, Vercel, DigitalOcean

Architecture: Microservices, event-driven architecture, monorepos, multi-tenant SaaS, message queues (RabbitMQ, BullMQ, Kafka)

PROFESSIONAL EXPERIENCE

HITEK AI — Full Stack & AI Engineer

Jul 2025 – Present

Dubai, UAE — AI-powered enterprise service management products · Maaden Teams AI Chatbot

- Developing an enterprise conversational AI platform enabling **service requests and approvals inside Microsoft Teams**, built on a modular NestJS backend with Microsoft Bot Framework, Teams AI SDK, Microsoft Graph API, and Adaptive Cards.
- Implemented conversational AI with **LangGraph agents and Qdrant-based semantic search (RAG)** over enterprise knowledge, with prompt guardrails and grounding to keep responses tied to retrieved content.
- Designed **multi-turn conversation state and approval-workflow orchestration**, letting users raise, track, and approve service requests conversationally without leaving Teams.
- Connected agents to internal enterprise systems (CAFM integrations) via **tool / function calling**, secured with OAuth 2.0 and JWT authentication through Microsoft Graph.
- Optimising performance and reliability with **Redis caching, BullMQ background processing**, and MS SQL Server query tuning.

RADIXHR — Full Stack Developer

Oct 2021 – Jun 2025

Enterprise HR & payroll SaaS and AI product development

Flowtrail AI — AI-Powered Data Analytics & Agent Builder Platform (flowtrail.ai)

- Developed an **agentic platform** that lets businesses build AI assistants over their own data through natural language, using Next.js, Node.js, and Python/FastAPI microservices within a monorepo architecture.
- Designed and shipped **RAG pipelines with Qdrant and pgvector** — embeddings, semantic search, and chunking strategies — powering retrieval over enterprise document collections.
- Built **multi-step reasoning agents with LangGraph** and integrated external tools and data sources via Model Context Protocol (MCP) and function calling across OpenAI, Claude, and Grok models.

- Implemented **model routing and structured outputs** across providers with token and cost tracking, plus evaluation and guardrails to improve answer reliability and control spend.
- Served as **Technical Product Researcher**: conducted in-depth prototyping across LangChain, LangGraph, and advanced function-calling techniques, and contributed to system performance optimisation.
- Integrated **Stripe subscription billing** and Supabase authentication and storage, with CI/CD via GitHub Actions and deployments on Vercel.

Radix HR — Human Resource & Payroll Management System (radixhr.com)

- Built core **attendance tracking and payroll computation modules** using NestJS, GraphQL (Apollo), TypeORM, and MySQL, automating salary calculation with overtime, variable pay, and deduction logic across client organisations.
- Implemented **multi-tenant architecture with role-based access control** and configurable payroll rules per client organisation, plus reporting and export modules for payroll processing.
- Developed reusable **Vue.js 3 + TailwindCSS component libraries**, delivering responsive and maintainable UIs across the product suite.
- Optimised backend APIs and **query performance**, implementing a scalable architecture to support enterprise deployments.
- Containerised services with Docker and managed **Kubernetes-based deployments on AWS and DigitalOcean** for high-availability enterprise environments.

Pulse Star Technical Solutions — Software Engineer

Apr 2020 – Sep 2021

Client web applications and enterprise attendance systems

- Delivered **Radix-TAS**, a time-attendance Progressive Web App with offline access via IndexedDB, Azure MSAL enterprise authentication, and Express/Sequelize services over SQL Server.
- Developed and maintained full-stack web applications for client projects using JavaScript, Node.js, and SQL databases, **owning features from requirements through deployment**.
- Managed deployments and containerised applications using **Docker and Azure cloud services**.

KEY ACHIEVEMENTS

- **Led LLM integrations** across OpenAI, Anthropic Claude, and Grok on Flowtrail AI, establishing the platform's agent architecture with LangGraph and Vercel AI SDK.
- Shipped **production RAG systems in two products** (Flowtrail AI, Maaden Teams AI Chatbot) using Qdrant and pgvector — covering the full pipeline from chunking and embeddings to grounded generation.
- **Automated payroll computation** for multiple enterprise client organisations on a multi-tenant platform, handling overtime, variable pay, and per-client deduction rules.
- Delivered **offline-first attendance capture** (Radix-TAS PWA) with IndexedDB synchronisation and conflict handling, ensuring reliable operation in low-connectivity environments.
- Progressed from client web applications to **owning AI/LLM architecture end to end** — from requirements and prototyping through Kubernetes-based production deployment.

KEY PROJECTS

Maaden Teams AI Chatbot — Enterprise Service Management & Conversational AI Platform (HITEK AI)

Tools Used: VS Code, Claude Code, Postman, Azure Portal, Microsoft Teams Developer Portal, Prisma Studio, SQL Server Management Studio, Git, Docker, Redis Commander, BullMQ Dashboard

LLM Stack: OpenAI, LangGraph, Qdrant Vector Database

Technologies: Vue.js, NestJS, TypeScript, Node.js, Microsoft Bot Framework, Teams AI SDK, Microsoft Graph API, Prisma ORM, MS SQL Server, Redis, BullMQ, Adaptive Cards, REST APIs, Webhooks, JWT, OAuth 2.0, Azure Storage, Nodemailer

- Developed the Maaden Teams AI Chatbot enabling **service requests and approvals natively within Microsoft Teams**, removing the need for a separate service-desk portal.
- Built a **modular NestJS backend** supporting configurable workflows, CAFM system integrations, and multi-channel communications (Teams, email via Nodemailer).
- Implemented conversational AI with **LangGraph state machines and Qdrant-based semantic search** over the enterprise knowledge base.
- Integrated **Microsoft Graph and Teams AI SDK** for enterprise authentication and rich Adaptive Card interactions.
- Optimised throughput and reliability using **Redis caching, BullMQ queues, and database tuning**.

Flowtrail AI — AI-Powered Data Analytics & Agent Builder Platform (flowtrail.ai)

Tools Used: Cursor, DataGrip, Docker, Stripe Dashboard, GitHub Actions, Vercel, Postman

LLM Models: OpenAI, Anthropic Claude, Gemini, Mistral, Cohere, Grok (xAI) — orchestrated via LangChain / LangGraph

Technologies: Next.js, TypeScript, TailwindCSS, Node.js, Python, Stripe API, Supabase, Vercel AI SDK, LangGraph, MCP, monorepo architecture, REST APIs, GraphQL, Webhooks, PostgreSQL (pgvector), Qdrant, Redis

- Worked as **Full Stack Developer and Technical Product Researcher** on an agentic platform enabling businesses to create AI assistants powered by natural language interfaces.
- Developed and maintained key modules across the **Next.js + TailwindCSS frontend and Node.js + Python microservices backend** within a monorepo architecture.
- Led **LLM integrations across OpenAI, Anthropic (Claude), and Grok** via Vercel AI SDK, building multi-step reasoning agents with LangGraph.
- Conducted in-depth **product research and prototyping** across LangChain, LangGraph, and advanced function-calling techniques; contributed to system performance optimisation.

SQL Copilot — AI-Powered SQL Assistant

Tools Used: Windsurf, OpenAI, Vercel

Technologies: Next.js 15, TypeScript, TailwindCSS, Vercel AI SDK, OpenAI API

- Developed SQL Copilot, an AI-powered SQL query assistant that helps users **generate database queries through natural language prompts**.
- Implemented AI integration using **OpenAI's GPT-4o-mini via Vercel AI SDK** to translate natural language requests into accurate SQL queries.
- Utilised **TypeScript for full type safety** and an improved developer experience across the entire codebase.

Radix-TAS — Time Attendance System

Tools Used: VS Code, Azure Data Studio, DataGrip, Docker, Oracle, VPS

Technologies: Vue.js 2, React, JavaScript, TypeScript, Element UI, Progressive Web App (PWA), IndexedDB, Node.js, Express, Sequelize ORM, SQL Server, RESTful APIs

- Integrated **Azure MSAL authentication** to enable secure enterprise-level identity management.
- Built **Progressive Web App features including offline access and IndexedDB storage**, with offline-first data synchronisation and conflict handling for reliable attendance capture in low-connectivity environments.
- Managed deployments and containerised the application using **Docker and Azure cloud services**.

EDUCATION

Bachelor of Computer Applications (BCA), Information Technology — Bharathiar University, Coimbatore, India (2020)

ADDITIONAL TECHNICAL SKILLS

ORMs & Data: Prisma, TypeORM, Sequelize, Drizzle, IndexedDB

Testing & Quality: Jest, Vitest, React Testing Library, Playwright — unit, integration, and end-to-end testing

Runtimes & Build Tools: Node.js, Bun.js, Deno · Vite, Webpack, Babel, NPM scripts

Auth & Security: OAuth 2.0, JWT, Azure MSAL, Supabase Auth

Languages: English (professional), Malayalam (native)

Tools & IDEs: Git, GitHub, VS Code, Cursor, Windsurf, Trae, JetBrains, Visual Studio, SQL Server Management Studio, Postman, DataGrip, Azure Portal, Prisma Studio