

MAHESHWARAN A K

AI-Native Full-Stack Developer

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[Portfolio](#) | [LinkedIn](#)

SUMMARY

Full-stack developer with 3+ years shipping production web products end to end — React and TypeScript frontends, Node and FastAPI backends, PostgreSQL and MySQL underneath. AI-native in practice: builds the product layer around AI systems, and ships daily with coding agents. Currently on enterprise retail-analytics products at Bipolar Factory; previously founded Statix.pro and delivered a multi-tenant institutional ERP still running in production.

PROJECT HIGHLIGHTS

Institutional Finance & Research Workflow Platform – College ERP

Designed, built, and deployed a multi-tenant college ERP platform for finance, budgeting, expenditure, and research operations, serving **330+ active users** across 39 departments with **14+ months** in production.

- Built a 9-role RBAC approval engine supporting multi-stage budget, finance, and expenditure workflows, processing **1,000+ budget proposals worth ₹43.4 Cr.**
- Developed end-to-end finance and expenditure workflows, processing 570+ requests covering advances, bill reconciliation, settlements, and audit trails.
- Architected the Node.js/Express + MySQL backend and React/TypeScript frontend across 15+ business domains.
- Implemented JWT/OAuth authentication and CASL-based permission controls for secure, role-specific access.

Tech Stack: React, TypeScript, Node.js (Express), MySQL, JWT, OAuth, CASL

Case Study: [Case Study](#)

Guide2Profit– Financial SaaS Platform

Developed and launched an end-to-end SaaS product enabling startups to model finances with precision.

- Multi-step form handling, backend-triggered financial calculations via REST APIs
- Dynamic dashboards for 5-year forecasts, P&L statements, break-even analysis, and funding estimations
- Implemented using monolithic architecture and functional programming patterns
- Used CI/CD workflows for automatic deployments and updates via Vercel and GitHub

Tech Stack: Reactjs, Nodejs (Express), Supabase, PostgreSQL

Live: [Guide2Profit](#)

AI Debate Platform – Multi-Agent AI Interaction

Engineered a debate platform featuring multi-agent LLM interaction and autonomous reasoning.

- Structured argument generation and conflict resolution using prompt chaining

Tech Stack: Streamlit, Nebius AI Studio API, Function Calling

Source code: [AI Debate App](#)

EXPERIENCE

AI Native Full Stack Developer – Bipolar Factory

Sept 2025 – Present | Remote

- Built an **end-to-end workflow and scheduling system** using FastAPI and PostgreSQL, supporting recurring, one-off, and milestone schedules, TAT cascades, KPI aggregation, and manager workflows.

- Implemented a **multi-tenant object storage and evidence upload system** using S3/MinIO, with file validation, size limits, workspace-level isolation, and secure reference validation.
- Developed **React/TypeScript features** across video-management and retail-analytics products, including ticketing, KPI cards, camera grids, activity search, floor plans, and NVR/device integrations.
- Built reusable **MUI + Recharts dashboard components** including KPI cards, footfall heatmaps, widget filters, and custom tooltips, published through an internal npm package with Storybook documentation.
- Refactored a **100+ file legacy codebase**, resolving build and linting failures while standardizing architecture with TypeScript and Redux Toolkit.
- Integrated a **Next.js analytics dashboard with live backend APIs** using Orval-generated typed clients, shared filtering, SSR fixes, dark mode, and responsive data visualizations.

Full Stack Engineer – Statix.pro

April 2023 – June 2025 | Tamil Nadu

- Founded the company and led development of multiple AI-powered SaaS tools including Guide2Profit, Statix.pro's digital marketing suite, and a research paper database system
- Architected, built and deployed solutions across financial modeling, SEO automation, and academic content management
- Developed microservice-based backend APIs with Node.js
- Led full product cycles including REST API design, cloud deployment, and LLM integration
- Enforced monolithic and modular codebases with Git-based CI/CD, OAuth/Auth0 protocols

Web Development Intern – Infoview Technologies

July 2022 – Oct 2022 | Tamil Nadu

- Delivered full-stack blog management system with custom authentication
- Used MVC architecture and JWT sessions with cross-browser compatible UI
- Focused on backend API logic, middleware security, and CRUD functionality

TECH STACK

- **Frontend:** React, Next.js, Streamlit
- **Backend:** Node.js, Express.js, Python (Flask, Django, FastAPI)
- **APIs:** REST APIs, Function Calling, LangChain Agents
- **Databases:** Supabase, PostgreSQL, MongoDB, MySQL
- **Cloud/DevOps:** Vercel, GitHub, CI/CD Pipelines, Hostinger
- **AI/ML:** HuggingFace, LangChain, LangGraph, LangFuse, GPT APIs, Gradio
- **AI-Assisted Development:** Claude Code, Cursor, OpenCode, Cline, Codex, Gemini CLI, Antigravity
- **Tools & Others:** SEO, Google Analytics, SMO, Git, Auth0, OAuth, JWT

EDUCATION

B.Tech in Information Technology

K.S.Rangasamy College of Technology (2019 – 2023) | **CGPA:** 8.67

PUBLICATIONS

On-Demand Job-Based Recruitment for Organisations Using Artificial Intelligence

IEEE · May 25, 2023 · [DOI Link](#)

CERTIFICATIONS

- **HuggingFace AI Agents Course** – Completed by developing and testing an AI agent that cleared GAIA Level 1 challenge (May 2025).