Lathiesh Mahendran

Software Developer

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ABOUT

Software Developer with expertise in full-stack web development and AI-driven solutions. Skilled in building scalable applications using Django, Next.js, and TypeScript, while integrating LLM workflows with LangChain, RAG pipelines, and Vector Databases. Experienced in deploying and managing AI models on Azure AI Foundry and Virtual Machines, with a focus on prompt optimization, API integrations, and delivering seamless user experiences.

KEY COMPETENCIES

Programming Languages & Frameworks: Next.js │ React.js │ Django │ Node.js │ Express.js │ TypeScript │ Tailwind CSS

LLM-Based Development: Azure AI Foundry │ Langchain │ RAG Workflows │ OpenAI API │ Ollama (Local LLMs) │ Vector Databases

Databases & Data Management: PostgreSQL │ MongoDB │ Qdrant │ Neural DB │ Data Modeling & Optimization

Automation & API Integrations: Web Scraping (Selenium, Undetected.io ↗) │ REST API Development │ Third-party Integrations (Twilio, Facebook Conversions API, Melissa API) │ Data Validation Pipelines

Developer Tools & Collaboration: GitHub │ Bitbucket │ Postman │ Figma (UI/UX Prototyping) │ Canva

PROFESSIONAL EXPERIENCE

Software Developer - Full Time   08/2023 – Present
The Yellow Network ↗

- Built **Nifo**, an **AI-driven co-innovation workflow platform**, as one of two core developers, **owning the design, development, testing, and deployment** in close collaboration with the founder.
- Designed a scalable backend with **Django** and a responsive frontend with **Next.js & TypeScript**, leveraging **PostgreSQL** for efficient data management.
- Developed a **secure authentication** & **authorization system**, enabling user-specific access control and session management.
- Integrated **OpenAI** and open-source **LLMs** via **LangChain**, utilizing **RAG pipelines** to build AI agents for **document generation, enterprise insights, and intelligent search** for solutions and providers**.**
- Leveraged **ThirdAI's Neural DB** for AI-driven indexing & retrieval, improving query response times and data accuracy.
- Managed **Azure AI Foundry** & **Virtual Machines** for hosting, scaling, and deploying LLM endpoints.
- Automated data scraping & preprocessing using **Selenium** & **Undetected.io ↗** , generating structured, LLM-ready datasets.
- Implemented **state management with Redux** for seamless data flow and better UI performance.
- Performed testing & validation of backend APIs and AI workflows using **Jest** & **Pytest** to ensure reliability.
- Designed and implemented **UI/UX prototypes** in **Figma**, ensuring intuitive user flows and a seamless experience across the platform.

PROJECTS

Arthashastra
Political Analytics & Opinion Intelligence Platform (Stealth Mode)

- Built a **real-time analytics platform** to track political sentiment, trending hashtags, and public discourse across **Twitter, YouTube, and major news sources**.
- Developed **data pipelines for Twitter tweet scraping, YouTube content extraction, and News API integration** to collect and preprocess large-scale political data.
- Implemented **LLM-powered sentiment analysis and trend classification** using **LangChain** and **OpenAI APIs**, generating AI-driven summaries and actionable insights.
- Designed a **Next.js frontend** with interactive dashboards and built a **Django backend** for scalable API services.
- Used **Azure Cosmos DB** for distributed and scalable data storage.
- Automated scheduled data processing with **Azure Functions (timerTrigger)** for periodic sentiment and trend updates.

CSR - Government College of Technology
AI-Driven Digital Record Automation

- Undertook a CSR project to digitalize and automate 20 years of institutional records at Government College of Technology, transitioning from **paper-based archives** to **structured digital data**.
- Implemented **OCR-based document digitization** using **Google Vision API** and **Python Tesseract** to extract text from scanned records.
- Integrated **local LLMs (Ollama)** with **structured prompt workflows** to convert unstructured OCR output into organized, validated datasets.
- Automated the pipeline to **generate structured Excel files**, enabling easy retrieval, long-term maintainability, and improved administrative efficiency.