

David A. D. Fernandes

[Email](#) | [LinkedIn](#) | +91 8975167937

Software Engineer | Generative AI & Full-Stack AI/ML

Goa, India

Innovative Software Developer & AI Engineer with a strong foundation in Generative AI, ML, NLP, and Computer Vision. Co-founded and led the development of NutriCheck, an AI-driven mobile application for diabetes management, overseeing the complete lifecycle from ideation to deployment. Proficient in building scalable AI solutions, integrating LLMs, and deploying full-stack applications. Passionate about creating impactful AI products that enhance user experiences.

PROFESSIONAL EXPERIENCE

NutriCheck - Co-Founder & Lead Engineer [[Link](#)]

Jul/24 – present

- **End-to-End Development:** Spearheaded the design and implementation of NutriCheck's mobile application using **React Native** and **Expo** for Cross Platform deployment, and developed the backend with **FastAPI** hosted on Vercel's **Serverless Functions**, ensuring seamless integration between frontend and backend systems, while keeping the AI costs down (**>95% profit margins**)
- **Generative AI Integration:** Integrated Google's Gemini model to enable real-time meal scanning and analysis, achieving **98.97% accuracy** in glycemic impact scoring and providing users with detailed nutritional breakdowns and healthier alternatives.
- **Adaptive AI Chatbot:** Developed NutriBot, an adaptive AI agent: engineered prompt-driven workflows for dynamic meal-plan adjustments, memory-based personalization, and health-metric reasoning (e.g., compensatory meal suggestions after user treats).
- **Smart Meal Planner:** Designed a 7-day smart meal planner: combined grounding with web search for real-time nutrition data, user preferences, and medical flags (keto/vegan); exposed plan–chat interface for on-the-fly edits.
- **Future Updates:** Working on implementing **On-Device AI Agent** to reduce AI requests and API costs.

NutriDraft - Lead Engineer [[Link](#)]

June/25

- **Solo full-stack build:** React/Tailwind frontend, Supabase Edge Functions & DB backend, Vercel deployment with AI meal planner using Gemini 2.5 Pro & prompt engineering with **>90% accuracy**.
- Developed responsive landing page and full web app UI/UX; implemented secure PDF/Word export and edit-review workflows for clinician approval.
- Integrated Razorpay payments & affiliate tracking; while ensuring **99.5% uptime**.

Nritya Art Space - Freelance Full-Stack Developer [[Link](#)]

May/25

- Built a custom mobile-first booking website using **React** (frontend) and **Vercel Edge Functions** (backend) with **Supabase** for real-time slot tracking and booking storage
- Integrated **Resend** for **automated email confirmations** to customers and instant admin notifications
- Delivered a fully responsive, production-ready system tailored for mobile UX as per client request

PERSONAL & ACADEMIC PROJECTS

1. Mixture-of-Agents (MoA) using Llama 3.1 8B

Aug/24 – Dec/24

- **Description:**
Developed and implemented the **Mixture-of-Agents (MoA)** research paper by **Together AI**, utilizing **Llama 3.1 8B models** and **Chain-of-Thought prompting**. Focused on building **extensible and maintainable code** for AI model evaluation and enhancement in **reasoning, coding, and creativity tasks**. Integrated **feedback loops** and applied **debugging tools** and **logs** to ensure system reliability and performance.
- **Achievements:**
 - I. Achieved a **13% improvement** in **Reasoning Tasks** compared to **Llama 3.1 70B**.
 - II. Delivered a **15% improvement** in **Coding and Creativity Tasks** over **Llama 3.1 70B**.
 - III. Improved **General Performance** by **8%** compared to **Llama 3.1 70B**.

2. Jarvis - An All-in-One AI Solution (Academic Project)

May/23 - Apr/24

- **Role:** Project Leader
- **Description:**
Led the development of a comprehensive **AI solution** with multiple functionalities, leveraging **state-of-the-art Generative AI technologies**. The project integrated **Retrieval-Augmented Generation (RAG)**, **Vector Databases**, **AI Agents**, **Large Language Models (LLMs)**, **Small Language Models (SLMs)**, and **Diffusion Models** to deliver robust, scalable AI functionalities. Applied **coding standards**, **debugging tools**, and implemented a clear **feedback loop** to continuously enhance design and performance. Ensured **security**, **privacy**, and **accessibility** throughout the project, adhering to **responsible AI practices**.
- **Achievements:**
Scored **94%** for project excellence, demonstrating high proficiency in AI system architecture, **scaling requirements**, and **quality assurance**.

3. AI Voice Assistant using OpenAI 's text-davinci-002

Oct/22 - Nov/22

- **Description:**
Developed an **AI Voice Assistant** with features such as **text generation**, **speech recognition**, **text-to-speech**, and **PC control** functionalities. Utilized **Python** and integrated **OpenAI's text-davinci-002 model**, **Pytttsx3**, and the **Speech Recognition library** to create a seamless user experience. The assistant supported a variety of commands and operations, ensuring an intuitive interface.
- **Achievements:**
Successfully presented the project to over **100 school students** to raise awareness about **AI technology**, demonstrating the potential impact of **AI-driven solutions** in real-world applications.

COURSES & CERTIFICATES

- AI Engineering Professional Certificate - IBM, Coursera [[Link](#)]
- Machine Learning Specialization - Stanford University, Coursera [[Link](#)]
- Machine Learning Training, Internshala Trainings [[Link](#)]
- Machine Learning in Production – DeepLearning.AI, Coursera [[Link](#)]
- Introduction to Machine Learning, Skill Academy

EDUCATION

Bachelor's in Computer Science: St. Xaviers College Mapusa - Goa, India

2024

CGPA: 3.83/4

TECHNICAL SKILLS

Programming Languages: Python (strong) | C/C++ | Java | JavaScript | TypeScript | SQL | HTML/CSS | ASM

Frameworks and Libraries: Scikit-Learn | TensorFlow | PyTorch | Keras | LangChain | Hugging Face | CrewAI | ChromaDB | Pinecone | FastAPI | Next.js | React | React Native

Core Competencies: Machine Learning & AI | Large Language Models (LLMs) | Agentic & Multi-Agent AI | Retrieval-Augmented Generation (RAG) | API Development & Integration