

Juan Miguel Sanchez

Software Engineer | London, UK | Irish Citizen - juanmigsanchez@ymail.com | +44 7887 815 711
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Computer Science graduate experienced in full-stack development, AI/LLM systems, and workflow automation. Proven ability to build scalable applications from concept to deployment, with expertise in Python, TypeScript, and modern cloud infrastructure. Able to deliver end-to-end solutions from fine-tuned LLM deployment with RAG pipeline to workflow automation tools achieving 100% team adoption. Comfortable across the entire stack from backend systems to user-facing apps.

Technical Skills

- Languages: Python, TypeScript, C#
- Tools: Next.js, React, Tailwind, FastAPI, Google Cloud Platform, Docker, Unity, Git, SQL
- AI/ML: LLM fine-tuning (Unsloth), PyTorch, RAG pipelines, Pinecone vector DB, model deployment

Technical Projects

House MD Chatbot | TypeScript, Next.js, Tailwind, Python, FastAPI, Unsloth, RunPod, Pinecone | Oct 2025

- Architected a full-stack, fine-tuned, RAG enabled, open source LLM and deployed to an endpoint.
- Fine-tuned Qwen3-4B LLM on *House M.D.* episode transcripts and synthetic data with Unsloth using Google Compute Engine.
- Engineered RAG pipeline processing 500+ medical Wikipedia articles into a Pinecone vector database. Used Gemini for context-aware retrieval.
- Deployed production system across distributed cloud infrastructure: model inference on RunPod, Next.js frontend on Vercel, FastAPI backend on Fly.io. | [Frontend Repo](#) | [Backend Repo](#) | [Demo](#) |

PowerPoint Automation Tool | Python, python-pptx, Tkinter | Dec 2024

- Engineered Python desktop app to reduce slide preparation workflow by 87.5% (from 2 hrs to 15 mins). Achieved 100% adoption and in active use by PowerPoint operators in 7-person team.
- Delivered production-ready tool packaged for non-technical users with PyInstaller and Inno Setup installer. | [GitHub Repo](#) |

Freelance Web Development | Shopify, Liquid | Jan 2024

- Paid to deliver complete e-commerce solution for small business. Managing full project lifecycle from requirements gathering through deployment and ongoing maintenance.

Virtual Reality Language Learning App | Unity, C#, Python, FastAPI, Gemini, LangGraph | May 2025

- Built immersive VR application enabling conversational language practice through interactive NPC dialogue across 38+ languages using dynamic narrative generation with LangGraph and Gemini.
- Integrated OpenAI Whisper for speech-to-text processing, creating speech-based interaction.

Experience

Volunteer AV Team Lead - Church Ministry | Sep 2022 - Jul 2025

- Led 7-person volunteer team managing weekly livestream production across 110+ broadcasts. Developed Python automation tool adopted by entire team.
- Coordinated training, scheduling, and real-time troubleshooting during live environments.

Volunteer Live Streamer - Church Events | Mar 2021 - Present

- Managed live streaming for church events with 1,000+ concurrent viewers. Under high pressure, handled streaming infrastructure, presentations, and real-time troubleshooting.

Education

Queen Mary University of London, BSc Computer Science, 2:1 | Graduated July 2025