

# Juan Miguel Sanchez

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Software Engineer | London, UK

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Computer Science graduate with experience in full-stack development, AI/LLM systems, and workflow automation. Recent projects include a fine-tuned LLM deployment project and a workflow automation tool in active production use.

## Technical Skills

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

## Technical Projects

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

- Fine-tuned an open source LLM and deployed to a private endpoint. With RAG functionality.
- Qwen3-4B LLM fine-tuned on *House, M.D.* episode transcripts using Google Compute Engine.
- Implemented RAG pipeline. 1,000+ medical Wikipedia articles preprocessed and vectorised into Pinecone. Used Gemini API for context-aware retrieval at runtime.
- Deployed model to private endpoint on RunPod. Frontend on Vercel. Backend on Fly.io.
- Full-stack LLM application demonstrating data engineering, model fine-tuning, and production deployment. [Frontend Repo](#) | [Backend Repo](#) | [Demo](#)

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

- Developed an app to automate slide preparation. Task reduced from 2 hours to 15 minutes.
- Achieved 100% adoption by PowerPoint operators in 7-person team with continued active use.
- Packaged for non-technical users with PyInstaller and Inno Setup. [GitHub Repo](#)

**Freelance Web Development** | Shopify, Liquid | Jan 2024

- Paid to build a fully functioning e-commerce website for a small business.
- Expanded their Facebook-only presence with a professional digital storefront.
- Managed requirements gathering, client revisions, project scope pivoting based on client needs, and ongoing maintenance.

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

- Created VR app to teach language through speech-to-speech-like interactive NPC dialogue.
- Implemented dynamic narrative generation using LangGraph, Gemini API, and OpenAI Whisper to generate contextual conversations across 38+ supported languages.

## Experience

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**Volunteer AV Team Lead - Church Ministry** | 2022-2025

- Led and trained 7-person volunteer team managing weekly livestreams and audio-visual systems; developed Python automation tool for the team (see Technical Projects).
- Coordinated team training, scheduling, and real-time technical troubleshooting.

**Volunteer Live Streamer - Church Events** | 2022-Present

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

## Education

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