Alejandro Sánchez Yalí
Artificial Intelligence Engineer & Data Scientist

📅 LET'S CONNECT

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SUMMARY

Machine Learning Engineer and Data Scientist with 5+ years of experience building scalable AI/ML solutions and production-ready web applications. Strong mathematical foundation and hands-on expertise in Python, LLMs, and cloud infrastructure. Proven track record integrating large language models, deploying ML systems, and leading technical projects from research to production. Experienced in full-stack development, DevOps, and technical writing.

TECHNICAL SKILLS

- **ML/AI:** TensorFlow, PyTorch, LangChain, LangGraph, Whisper, LLMs, Scikit-learn, JAX, Flax

- **Languages:** Python (7+ años), TypeScript, JavaScript, SQL, Rust, C

- **Data Science:** Data Analysis, Statistical Modeling, Advanced Statistics, Visualization (Matplotlib, Seaborn, Pandas, NumPy)

- **Backend:** FastAPI, Django, Flask, RESTful APIs, GraphQL

- **Frontend:** React.js, Next.js, TypeScript

- **Cloud/MLOps:** AWS, GCP, Docker, GitHub Actions, CI/CD pipelines

- **Software Engineering:** Clean Architecture, SOLID principles, TDD, Unit/Integration Testing, Version Control (Git)

- **Mathematics:** Category Theory, Linear Algebra, Probability Theory, Statistical Inference

EXPERIENCE

Independent IT Consultant Aug 2024 – Present
Freelance *Remote*

– Delivered end-to-end AI/ML solutions for business clients using Python, FastAPI, Django, and React.js

– Developed and deployed AI agents, LLM-powered chatbots, and technical English learning platforms

– Integrated large language models and AI services into production web applications

– Implemented cloud deployments (AWS, Docker) and CI/CD pipelines

Full-stack Developer Apr 2021 – Aug 2024
Monadical *Remote Job - Canada/EEUU*

– Built and integrated AI services for information retrieval using large language models (OpenAI, LangChain, Whisper)

– Developed scalable backend systems for ML model deployment using Python (FastAPI, Django)

– Created frontend interfaces for AI applications using React, Next.js, and TypeScript

– Led technical projects from research to production, collaborating with multidisciplinary teams

– Managed cloud infrastructure and DevOps (AWS, Docker, CI/CD)

Full-stack Developer — Aug 2018 – Oct 2020
BCFort — *Medellín, Colombia*

- Led development of blockchain and data analytics solutions with Python, React, and Web3.js
- Implemented data analytics and predictive models for blockchain transaction analysis
- Managed cloud infrastructure (AWS, GCP, IBM Cloud)

Professor — Jan 2010 – Oct 2021
Universidad de Antioquia — *Medellín, Colombia*

- Taught advanced courses in Machine Learning, Data Science, and Mathematics using Python, NumPy, Pandas, TensorFlow, PyTorch, and Scikit-learn
- Mentored research and student projects in ML, data analysis, and software development
- Developed curriculum for mathematics and machine learning courses

FEATURED PROJECTS

- **Morpheus – AI Image Generation Platform** ⌇
  - Full-stack open-source platform for AI image generation using Python, React, and stable diffusion models
  - Implemented RESTful APIs, ML model integrations, and cloud infrastructure with Docker and AWS

- **Zippy – Interactive AI Avatar** ⌇
  - Built a Next.js-based talking avatar integrating OpenAI API and Azure Cognitive Services
  - Developed TTS synthesis and seamless backend-frontend integration in Python and TypeScript

- **Digital Human – Interactive AI Avatar** ⌇
  - Engineered a conversational AI system with OpenAI GPT, Whisper, and Eleven Labs
  - Implemented real-time data processing and lip synchronization

TECHNICAL WRITING

- **Zero-Shot Text Classification** (Sep 2024)
  - Analysis of modern approaches to zero-shot learning in NLP

- **Neural Networks as DAGs of Parameterized Computational Programs** (Aug 2024)
  - In-depth exploration of neural networks from a differentiable programming perspective

CONFERENCE TALKS

- **Scaling Learning Models: Parallelism Strategies in JAX with Flax - PyCon** ▶ (2024)
  - Presented strategies for scaling machine learning models using JAX and Flax
  - Discussed parallel computing techniques for efficient model training

EDUCATION

Master in Mathematics — Aug 2010 - Sep 2013
Universidad de Antioquia — *Medellín, Colombia*

B.Sc. in Teaching Mathematics and Physics — Jan 2004 - Oct 2009
Universidad de Antioquia — *Medellín, Colombia*