Alejandro Sánchez Yalí

Full Stack Software Engineer | AI/ML

Let's Connect

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SUMMARY

I'm a Software Engineer with over 5 years of experience creating robust and efficient solutions across frontend and backend applications. With a strong background in mathematics, I specialize in integrating emerging technologies into real-world projects to deliver innovative and impactful results.

TECHNICAL SKILLS

- **Languages: Python** (7+ years), **JavaScript** / **TypeScript**(5+ years), C (2+ years), Rust (1+ years).
- **Frontend:** React.js, Next.js (6+ years).
- **Backend:** Django, FastAPI, Flask, Node.js, Next.js, GraphQL, RESTful APIs (5+ years).
- **AI/ML Integration:** LangChain, LangGraph, ScrapeGraph, Whisper, LLMs, TensorFlow/PyTorch
- **Databases:** PostgreSQL, MongoDB
- **Cloud/DevOps:** AWS, GCP, Docker, GitHub Actions, CI/CD pipelines

EXPERIENCE

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

– Developed and maintained full-stack applications using **Python**(Django), and **JavaScript** / **TypeScript** (React.js and Next.js), focusing on scalable architectures
– Built AI services using large language models with **Python**; designed RESTful APIs
– Created custom Django ORM extensions and ETL pipelines in **Python**
– **Duration with Python & JavaScript:** 3+ years continuous experience

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

– Taught Machine Learning (2018-2021) using **Python**, NumPy, Pandas, TensorFlow
– Created curriculum on **Python** for data science; mentored **Python**-based projects in Category Theory and ML applications
– **Duration teaching Python:** 3+ years (2018 - 2021)

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

– Developed blockchain solutions with Ethereum and Solidity using **JavaScript** / **TypeScript** and **Python**
– Built backend with **Python** (Django) and frontend with **JavaScript** / **TypeScript** (React)
– Managed cloud infrastructure on AWS, GCP, and IBM Cloud including logging and monitoring solutions
– **Duration with Python & JavaScript:** 2+ years continuous experience

FEATURED PROJECTS

- **Morpheus - AI Image Generation Platform**
  - Contributed to building a full-stack open-source platform for AI image generation using Python, React, and stable diffusion models
  - Implemented RESTful APIs and scalable architecture for handling ML model integrations
  - Developed infrastructure as code using Docker, Kubernetes, and AWS services
- **Zippy - Interactive AI Avatar**
  - Built a Next.js-based talking avatar using Azure Cognitive Services and OpenAI API
  - Implemented TTS synthesis with synchronized lip movements using Azure's viseme generation
  - Created seamless integration between OpenAI's language models and Azure's speech services
- **Digital Human - Interactive AI Avatar**
  - Engineered a conversational AI system integrating Open AI GPT, Whisper, and Eleven Labs
  - Implemented real-time lip synchronization creating seamless human-AI interaction

TECHNICAL WRITING

- **Zero-Shot Text Classification** (Sep 2024)
- **Neural Networks as DAGs of Parameterized Computational Programs** (Aug 2024)
- **Revolutionizing Animation: Building Digital Humans with LLMs** (Jul 2024)

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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*