Alejandro Sánchez Yalí

Full Stack Software Developer | React.js | Python | AI/ML

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SUMMARY

I'm a full stack software developer with 5+ years of experience and a mathematics background, specializing in Python and React development. I focus on building scalable web applications and have experience integrating AI services into production applications. My background in mathematics and software development allows me to effectively bridge technical implementation with analytical thinking.

TECHNICAL SKILLS

- **Languages:** Python, JavaScript, TypeScript, Rust, C

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

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

- **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   *Remote Job - Canada/EEUU*

- Developed and maintained full-stack applications using Python, Django, and React, focusing on scalable architectures
- Built and integrated AI services for information retrieval using large language models
- Designed and implemented RESTful APIs for data-intensive applications

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

- Taught advanced courses in Machine Learning, focusing on practical implementations with Numpy, Pandas, TensorFlow, PyTorch and Scikit-learn
- Mentored research projects in Category Theory and ML applications

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

- Led development of blockchain solutions with Ethereum and Hyperledger
- Managed cloud infrastructure on AWS, GCP, and IBM Cloud

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 text-to-speech 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)
  - 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

- **Revolutionizing Animation: Building Digital Humans with LLMs** (Jul 2024)
  - Technical guide on implementing AI-powered digital avatars

  View more articles ⬈

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	Sep 2013
Universidad de Antioquia	*Medellín, Colombia*
B.Sc. in Teaching Mathematics and Physics	Oct 2009
Universidad de Antioquia	*Medellín, Colombia*