



Andres Duque H

Senior Software Engineer

CONTACTS

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SUMMARY

I'm a Senior Software Engineer with over 10 years of experience building and architecting microservices and event-driven platforms using Python (**FastAPI**, **Django**, **Flask**) and TypeScript (**NestJS**, **Node.js**), with deep expertise in asynchronous workflows, real-time systems, and backend infrastructure. My work spans **PostgreSQL**, **MongoDB**, **Kafka**, **AWS SQS**, **EventBridge**, and testing with **Playwright**.

My cloud experience includes **AWS**, **GCP**, **Docker**, and **Kubernetes**, as well as Serverless architectures using **AWS Lambda** and **DynamoDB**. While I focus on backend systems, I also have experience using **React** and **JavaScript**.

Recently, I've been developing applied model-agnostic **AI agents** using Python, **FastAPI**, and vector-backed RAG pipelines—integrated with **OpenAI**, **Claude**, and real-time context handling.

— I recently developed an AI Agent that serves as a dynamic, interactive version of my professional profile—you can ask it anything about my experience:

👉 <https://andres-ai.aduquehd.com/>

EXPERIENCE

Thoughtful AI

United States

Forward Deployed Engineer

09/2025 - Present

At Thoughtful AI, I work as a Forward Deployed Engineer, partnering directly with clients to understand their workflows and deliver AI-powered automation tailored to their needs. My focus is on aligning technology with real business challenges in healthcare and ensuring seamless adoption.

I design, implement, and deploy scalable software—primarily using Python—to bring Thoughtful's AI platform into production environments. This includes building integrations, optimizing performance, and ensuring reliable, secure deployments that deliver measurable business impact.

Beyond development, I collaborate closely with product and customer success teams to translate real-world requirements into technical solutions. My role combines engineering expertise with client-facing problem solving, enabling me to deliver high-value automation that improves efficiency and outcomes across healthcare operations.

Buildertrend

United States

Senior Software Engineer

07/2022 - 08/2025

I work as a software engineer on the Banking as a Service team, building high-performance, highly scalable applications. I am involved in the design, development, deployment, and maintenance of critical systems.

I specialize in microservices, event-driven architectures, and cloud-based solutions, working with **Python**, **FastAPI**, **JavaScript**, **TypeScript**, **React.js**, **MongoDB**, **Docker**, **Kubernetes**, and **GCP**. My work includes implementing unit and integration testing to ensure reliability and performance at scale.

JetBridge

United States

Senior Software Engineer

08/2021 - 08/2022

I work as a software engineer for Invitae, a leading biotechnology company specializing in genetic testing and precision medicine. At Invitae, I build microservices and highly scalable applications using Python, Django, NestJS, React.js, Docker, Kubernetes, Elasticsearch, and Kafka. I collaborate with top engineering talent worldwide to develop robust and efficient solutions that power genetic testing platforms and healthcare technologies. My work contributes to Invitae's mission of making genetic information accessible and affordable, helping improve healthcare for billions of people through advanced genetic insights and diagnostics.

SKILLS

Python · FastAPI · Django · AWS · GCP · PostgreSQL · MongoDB · Microservices · Event-Driven · WebSockets · Javascript · TypeScript · React Js · Kafka · Docker · Kubernetes · Node Js · NestJs · Playwright · AI

PROJECTS

AI Agent - Professional Profile

This **open-source** intelligent **AI agent** is designed to serve as a personal professional assistant—capable of answering any questions about my background, experience, and technical skills. It represents a modern application of AI in personal branding and professional communication.

 [Try it out](#)

Online JSON Viewer/Editor

This **open-source** JSON viewer and editor is built to streamline the workflow of developers who regularly work with JSON data. It combines powerful editing features with an intuitive interface, making it easy to view, edit, validate, and format JSON documents of any size.

 [Try it out](#)

EXPERIENCE

Playvox

Colombia

Software Engineer

08/2020 - 08/2021

I worked as a software engineer, developing and enhancing features for major clients such as Facebook, Google, Glovo, Sutherland, Rappi, and many others.

We leveraged a robust tech stack to build and maintain a highly scalable application, implementing microservices, serverless architectures, REST APIs, design patterns, TDD, and best coding practices. Continuous learning and improvement were key to our daily work.

I tackled complex challenges with asynchronous technologies in Python, working with Tornado (async framework) and MongoDB to optimize performance and scalability.

Anomali

United States

Software Engineer

12/2018 - 06/2020

I worked as a backend engineer at a cybersecurity company, developing secure, scalable, and high-performance applications using Python, Django, Celery, REST APIs, Amazon Web Services (AWS), Elasticsearch, and Docker.

My role focused on building robust applications with well-architected designs, secure coding practices, and strong unit testing to ensure reliability and resilience. Security was a key aspect of my work, implementing best practices to protect sensitive data, prevent vulnerabilities, and ensure compliance with industry standards.

Brizant

Colombia

Software Engineer

07/2018 - 12/2018

I developed high-performance applications using both monolithic and microservices architectures, implementing advanced data management techniques such as Saga, event sourcing, and API composition.

I built and optimized REST APIs, following best industry practices, and leveraged Kafka and RabbitMQ to handle real-time data processing and message brokering.

I also worked with face recognition algorithms and Amazon Rekognition, developing applications that analyze people and objects by processing images and videos.

My primary tech stack included Python, utilizing frameworks like Django and Django Rest Framework (DRF). I also designed and deployed containerized applications using Docker and Docker Compose, following best deployment practices on AWS (EC2, RDS, and more).

Additionally, I worked with JavaScript, developing web and mobile applications using React.js, Redux, and React Native.



VOLUNTEERING

Python Colombia

Co-organizer
05/2016

We are a community passionate about Python, FastAPI, Django, and AI, dedicated to sharing knowledge, learning, and fostering collaboration among developers of all levels. Based in Medellín, Colombia, we organize meetups, workshops, and discussions to help members enhance their skills, explore best practices, and stay up-to-date with the latest advancements in web development, API design, and artificial intelligence using Python.

Our goal is to build a strong and inclusive tech community, where developers can connect, grow, and contribute to cutting-edge AI applications, scalable web solutions, and open-source projects.

React Js Colombia

Organizer
10/2016

As the main organizer of ReactJS Colombia, I lead a community of enthusiasts and professionals passionate about React.js and JavaScript development. Our mission is to foster learning, collaboration, and innovation in the React ecosystem through meetups, workshops, and networking events.

React.js has quickly become the industry standard for building modern, high-performance user interfaces. Instead of relying solely on traditional HTML rendering, React uses a virtual DOM to efficiently update and render components, optimizing performance and scalability.

Through this community, we help developers of all levels learn, share knowledge, and grow their skills, making React.js more accessible and impactful for the Colombian tech ecosystem.



EXPERIENCE

Datagran

Software Engineer

Medellín

01/2018 - 07/2018

I worked on platform integrations with Google Ads, connecting functionalities with Machine Learning algorithms to optimize and automate key business processes. My role involved designing and implementing scalable, high-performance solutions to enhance data processing and automation.

I developed and maintained event-driven architectures using Kafka, enabling real-time data streaming and seamless system communication. I was also responsible for deploying, monitoring, and maintaining applications in production, ensuring reliability, performance, and scalability.

My tech stack included Python (Flask), JavaScript, MongoDB, Luigi, and Google Cloud Platform (GCP). I leveraged Docker for containerized deployments and followed best DevOps practices to streamline CI/CD pipelines and cloud infrastructure management.

LendingFront

Software Engineer

Colombia

05/2016 - 09/2017

I worked as a Full-Stack Engineer, contributing to the development of a platform that implemented best practices in Python, microservices, clean architecture, TDD, and database design.

I designed and built microservices-based architectures, enabling seamless communication between components through REST APIs. To optimize data retrieval from multiple remote sources, I leveraged PostgreSQL Foreign Data Wrappers (FDW), significantly improving performance and efficiency.

I followed Scrum methodology and worked with a tech stack that included Python (Flask, Flask-RESTful), TDD, PostgreSQL, Foreign Data Wrappers, SQLAlchemy, Alembic, JavaScript, and AWS. Additionally, I ensured scalability, maintainability, and reliability by implementing clean code principles, automated testing, and database migrations.

Metis Consultores SAS

Software Engineer

Colombia

07/2015 - 04/2016

I worked as a Full-Stack Developer, building and deploying scalable applications on Amazon Web Services (AWS). I leveraged Load Balancers, EC2, and RDS to ensure high availability, stability, and scalability of the applications.

I was responsible for end-to-end development, from design and architecture to deployment and server administration. I implemented secure and optimized backend solutions using Python and Django, while also working on the frontend with HTML5, CSS3, JavaScript, jQuery, and Bootstrap.

To enhance performance and reliability, I configured and maintained Nginx, Gunicorn, and Supervisor, ensuring efficient request handling and process management. I also worked with Linux server administration, database design, and version control using Git (BitBucket, GitLab).

Technologies Used:

Backend: Python, Django, PostgreSQL

Frontend: HTML5, CSS3, JavaScript, jQuery, Bootstrap

DevOps & Deployment: AWS (EC2, RDS, Load Balancer), Nginx, Gunicorn, Supervisor

Version Control: Git, BitBucket, GitLab

Database & Server Management: PostgreSQL, Linux Server Administration

 EDUCATION

Servicio Nacional de Aprendizaje (SENA) 01/2014 - 12/2016
Analysis and development of information systems, Computer
Software Engineering

Servicio Nacional de Aprendizaje (SENA) 01/2011 - 12/2013
Administrative assistance, Business Administration and
Management, General