

Adrian Romo

SENIOR BACKEND ENGINEER

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PROFILE

Senior Backend Engineer with 8+ years building Python backends, AWS-heavy architectures, voice systems, and the integrations that connect them. Strong on API design, distributed systems, operational discipline, and clear writing under ambiguity.

EXPERIENCE

Senior Backend Engineer

September 2022 — Present

Espressive — virtual support agent & omnichannel integrations · Santa Clara, US · Remote from Mexico

Building scalable Python backend systems, secure enterprise integrations, and omnichannel/voice automation for Espressive's virtual support agent platform. Focused on API design, authentication, AWS Lambda infrastructure, maintainability, and cross-functional delivery.

- Engineered and optimized RESTful APIs and Python backend systems for Espressive's virtual support agent, helping reduce help-desk call volume by 40–60%.
- Designed and implemented a Factory Method-based omnichannel integration framework with shared testing utilities across Slack, Microsoft Teams, Google Chat, and Webex.
- Architected and led an IVR Voice Agent integration using Amazon Connect, Amazon Lex, AWS Lambda, and Polly to bridge asynchronous chatbot conversations into IVR flows.
- Owned secure API development and secure-by-default patterns — authentication, MFA, secrets handling — maintaining zero critical vulnerabilities across enterprise integrations for two years.
- Administered AWS Lambda infrastructure for scalable, multi-region deployments.
- Mentored engineers and led code reviews to improve maintainability, performance, and review quality standards.
- Partnered with front-end, product, QA, and UX teams to ship backend features that drove enterprise adoption and reduced support interactions.

Stack: Python · REST APIs · AWS Lambda · Amazon Connect · Amazon Lex · Amazon Polly · MFA · Authentication · Secrets Handling · Slack · Microsoft Teams · Google Chat · Webex

Backend Engineer

January 2021 — September 2022

46Degrees — backend automation & microservices · Chile · Remote

Developed backend automation, API testing infrastructure, microservice integrations, and CI/CD workflows using Python, Flask, Selenium, Docker, Kubernetes, and Terraform.

- Built automated API testing bots with Selenium, Flask, and Object-Oriented Python, integrated into CI/CD pipelines via Jira and GitHub — increasing bug detection efficiency by 150%.
- Engineered scalable backend projects integrated with 10+ existing and new microservices.
- Introduced Swagger-based API documentation as the team standard, replacing slow manual documentation.
- Drove continuous testing and code quality with Pytest and SonarQube, catching defects before they reached production.
- Spearheaded backend microservice infrastructure with Docker, Kubernetes, and Terraform, helping move the team from bi-weekly to weekly releases.

Stack: Python · Flask · Selenium · OOP · Pytest · SonarQube · Swagger · REST APIs · Docker · Kubernetes · Terraform · Jira · GitHub · CI/CD

Full-Stack Engineer

January 2017 — January 2021

Financial Health — internal tools & automation · Mexico City, MX

Built responsive user interfaces, internal automation tools, data migration workflows, and Python-based productivity systems supporting sales, operations, and client management.

- Migrated Excel-based workflows into internal databases using Python scripts, reducing data entry errors by 90%.
- Developed Python automation tools from business requirements, saving 10 hours monthly per employee.
- Automated PDF form completion with Python NLP scripts, shortening client calls and eliminating typos.
- Built responsive internal interfaces with HTML and CSS that sped up field data collection for the sales team.
- Automated client renewal scheduling and internal operational processes.

Stack: Python · HTML · CSS · SQL · NLP · PDF Automation · Data Migration · Internal Tools · Automation

SKILLS

BACKEND

Python backend engineering · Django · Flask · REST API design and optimization · Celery · Object-Oriented Programming · Swagger / API documentation · Pytest · SonarQube · Code reviews and quality practices · Performance optimization

CLOUD / AWS

AWS Lambda infrastructure · Scalable multi-region deployments · S3, IAM · Docker · Kubernetes · Terraform · CI/CD pipelines · Git, GitHub, and Bitbucket · DevOps practices · Postman / API testing tools

VOICE / IVR

Amazon Connect IVR flows · Amazon Lex conversational flows · Amazon Polly text-to-speech orchestration · Speech-to-text and text-to-speech workflows · Asynchronous chatbot-to-IVR integration · Automated ticket creation from voice flows · Virtual support agent backend systems · Natural Language Processing

INTEGRATIONS

Slack integrations · Microsoft Teams integrations · Google Chat integrations · Webex integrations · Omnichannel integration patterns · Microservices integration · Enterprise application integration · Secure API development · Authentication and authorization · MFA and secrets handling · Integration with AI/ML services

DATABASES / INFRASTRUCTURE

Postgres · Redis · SQL · Schema design · Data migration · Excel-to-database migration workflows · Process automation · PDF automation · Internal tooling · Data-driven decision making