

# Adrian Romo

## SENIOR BACKEND ENGINEER

Mexico · adrian.romo.dev@gmail.com · adrianromo.me

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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.

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### 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.
- Directed secure API development and advanced authentication efforts, achieving 100% compliance with enterprise security standards across integrations.
- Led secure-by-default patterns across services, including MFA and secrets handling, maintaining zero critical vulnerabilities over 2 years.
- Administered AWS Lambda infrastructure for scalable, multi-region deployments.
- Mentored engineers and led code reviews to improve maintainability, performance, and review quality standards.
- Collaborated with front-end, product, QA, and UX teams to deliver backend solutions that supported 80–85% adoption rates and fewer support interactions.
- Improved agile collaboration, documentation, and delivery practices, accelerating sprint delivery by 25%.

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.

- Developed automated API testing bots using Selenium, Flask, and Object-Oriented Programming in Python, integrated into CI/CD pipelines via Jira and GitHub.
- Increased bug detection efficiency by 150% and reduced manual testing time by two-thirds, tripling test efficiency.
- Implemented Swagger-based API documentation, reducing manual documentation time by approximately 75%.
- Engineered scalable backend projects integrated with 10+ existing and new microservices.
- Used Jira under SCRUM methodologies to improve team productivity by approximately 30% and reduce

project tracking errors by 50%.

- Directed continuous testing and code optimization using Pytest and SonarQube, reducing production defects by 40%.
- Helped improve deployment frequency from bi-weekly to weekly releases.
- Improved cross-team issue resolution by 25% through daily SCRUM sessions and bi-weekly backend/frontend syncs.
- Spearheaded backend microservice infrastructure using Docker, Kubernetes, and Terraform, improving reliability by 40% and reducing provisioning times by 60%.

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.

- Built responsive front-end interfaces with HTML and CSS, improving data collection speed by 70% and increasing sales by 80%.
- Leveraged form data to improve market segmentation using AI-driven workflows.
- Migrated Excel-based workflows into internal databases using Python scripts, reducing data entry errors by 90%.
- Automated client renewal scheduling and internal operational processes.
- Developed Python automation tools from business requirements, saving 10 hours monthly per employee.
- Automated PDF form completion with Python NLP scripts, reducing call durations and typos by 50%.

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

## **SKILLS**

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### **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