

ANDRES BUELVAS

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SUMMARY

Computer Engineer with extensive experience designing and delivering **scalable backend systems**, **fintech platforms**, and **AI-powered pipelines**. Specialized in **microservices architecture**, event-driven systems, and **LLM integration** using tools like LangChain, OpenAI, and Claude. Experienced in **leading engineering teams** and owning full product delivery cycles across fintech, document intelligence, and SaaS domains. Passionate about leveraging emerging AI technologies to build reliable, high-impact software.

EXPERIENCE

NextFaze

Apr 2025 – Present

Backend Engineer | NestJS, FastAPI, LangChain, AWS, Claude

- Designed, implemented, and delivered the **AR System**, a middleware integration between Service Channel and FSG that automates the **full work order lifecycle** including requests, responses, invoicing, and notifications.
- Led the refactoring, implementation, testing, and maintenance of the **Document Parser**, enabling intelligent extraction, detection, and classification of **18+ document types** for ERP client integrations.
- Engineered integrations with **AI/OCR providers** (Datalab, DeepSeek, Mistral) to automate document information extraction from images and PDFs.
- Served as **primary decision-maker** for AI model and provider selection, evaluating Claude, GPT, Mistral, and DeepSeek against business model constraints, cost, and accuracy requirements.

SmartHop

Apr 2019 – Jan 2025

Software Engineer IC5 / Engineer Manager | Node.js, React, MongoDB, GraphQL, Stripe *Feb 2021 – Jan 2025*

- **Led a fintech engineering team** that scaled from 1 to 4 developers, responsible for designing, implementing, and delivering modules for invoicing, payroll, wallets, fuel, and billing.
- Co-designed and contributed to the implementation of **SmartPay**, an ACH-based payment mechanism serving **30–50 active SaaS clients**.
- Implemented **2FA enforcement** as a security requirement for UNIT API compliance, including bank account creation, debit card generation, and ACH/internal fund transfers.
- Architected a **double-entry ledger system** accurately recording income and expenses across client portfolios handling up to **70 records per carrier**.
- Led **Payroll V2** redesign with the full team, delivering the module within a **single quarter** with on-demand income/expense generation and PDF reporting.
- Integrated **Onramp** for fuel card generation and transaction visualization.
- Implemented gas station **geolocation mapping** using GraphQL, Google Maps, and Trimble Maps API.

Senior Full Stack Engineer | Node.js, React, Redis, Plaid, Stripe

Aug 2020 – Feb 2021

- **Sole developer** responsible for all e-commerce, fuel, and insurance products across the platform.
- Integrated **EFS/WEX API** via SOAP for fuel card generation and transaction tracking, serving 5–10 users under an OOP architecture.
- Integrated **Plaid OAuth** to enable secure bank authentication across **20–30 connected banking institutions**.
- Designed and delivered **Payroll V1** infrastructure **end-to-end in under 3 months**.

Full Stack Engineer | Node.js, Python, React, MongoDB, Stripe

Apr 2019 – Aug 2020

- Built an interactive **profit dashboard** using Chart.js and React for an early client base of **5–15 active accounts**.
- Integrated **Stripe** for subscription plan management and secure payment handling across **10–100 active users** including free trial conversions.
- Implemented geolocation queries with **Redis set operations** for efficient resource retrieval.
- Developed transactional email flows using **Mandrill** and **Mailchimp**.

- Built the **MECE system**, an alternative admission pathway for students applying to Simon Bolivar University.
- Implemented a **timed online academic exam platform** with separate categories for numerical and verbal ability.
- Enabled **real-time exam control** for teachers, including session initiation and instant results feedback.

Simon Bolivar University

Apr 2018 – Jul 2018

Support Assistant | Python, Web2py

- Built **SisPIO**, a platform that helped students prepare for university entrance exams.
- Supported administrative operations including **student tracking** and PIO program activity management.

PROJECTS

EzzyGas

Fuel Management & Fintech | NestJS, Next.js, React Native, PostgreSQL, Redis, AWS, Docker, Stripe, Plaid

- Designed a **multi-app monorepo** (backend, mobile, admin web, station gateway) with shared TypeScript types enforcing API contracts across all services.
- Built a modular backend with **30+ domain-driven modules**, repository pattern, **ABAC authorization**, and workflow orchestration via **XState state machines**.
- Developed a **multi-tenant financial system** with an immutable append-only ledger, account-group-scoped wallets.
- Built a **cross-platform mobile app** with biometrics, geolocation, and push notifications.
- Integrated **Stripe Issuing** for virtual/physical fuel cards, **Plaid** for bank linking and ACH funding, and **Marqeta** for digital wallet provisioning.
- Implemented **real-time** backend to fuel pump hardware communication via Redis command queues and WebSockets.
- Provisioned cloud infrastructure with **CloudFormation** (ECS Fargate, ECR, ElastiCache) and **CI/CD** via GitHub Actions + OIDC with zero static credentials.

Document Parser

AI Document Processing Pipeline | Python, FastAPI, PostgreSQL, OpenAI, Claude, Langfuse, AWS, Docker, DataLab

- Built an **AI-powered document processing pipeline** supporting **18 document types** using a **10-stage orchestration architecture** with the Strategy Pattern.
- Designed a **hybrid LLM classification system** combining universal and binary classifiers, achieving **over 90% accuracy** on complex multi-document PDFs.
- Implemented a **bidirectional graph-based algorithm** to detect and link supporting documents across PDF pages, with conflict resolution to eliminate redundant LLM calls, including full retry/reclassification flow preserving document associations across pipeline re-runs.
- Built a **self-training loop** with Langfuse datasets, **LLM-as-Judge** evaluators, and automated prompt experimentation using candidate vs. baseline comparison.
- Implemented **AWS Lambda** email ingestion pipeline (SES to S3 to Parser API) with attachment extraction and multi-environment routing.
- Structured the codebase to support an **AI-assisted development framework** with modular rules, reusable skills, and specialized sub-agents integrated into **GitHub Actions workflows**, enabling autonomous implementation of new document types.

Account Receivable (AR) System

Enterprise Systems Integration | NestJS, TypeScript, RabbitMQ, Prisma, PostgreSQL, Redis, Docker, Datadog

- Built a **bidirectional AR integration system** connecting a facility management provider (ServiceChannel) with an ERP (FSG), automating work order data flow end-to-end.
- Designed the architecture using **Hexagonal Architecture** and **event-driven patterns**, keeping business logic decoupled from external services and infrastructure.
- Implemented complex **multi-step workflows** with XState state machines across inbound, core, and outbound processing layers.
- Engineered reliable **async messaging** with RabbitMQ including retry policies, **dead letter queues**, and **idempotent message processing**.

- Built a **real-time monitoring dashboard** with queue management, DLQ replay, and message lifecycle tracking.
- Added observability via **Datadog APM** with custom metrics, distributed tracing, and structured logging.

Photo Post

Social Media Microservices API | Node.js, Express.js, SQLite, Redis, Kafka, Docker, JWT, Jest

- Built a REST API with **5 independent microservices** (auth, users, posts, likes, gateway) with an **API Gateway** centralizing routing, JWT authentication, and internal request signing via x-gateway-signature headers.
- Implemented **Kafka** for asynchronous event-driven communication and **per-service Redis caching** for token blacklisting and response caching with 5-min TTL.
- Stored and processed user-uploaded images using Multer and Sharp, containerized with **Docker Compose** including dedicated Redis instances and SQLite volumes per service.
- Wrote **unit and integration tests** with Jest across all services.

CQRS Blog Application

Microservices Blog API | Node.js, TypeScript, React, Express.js, MySQL, MongoDB, RabbitMQ

- Built a **CQRS-based blog platform** using a microservices architecture with an **API Gateway** as single entry point.
- Routed read operations to a Queries Service backed by **MongoDB** and write operations to a Commands Service backed by **MySQL**, enforcing strict **read/write model separation**.
- Implemented **event-driven synchronization** between services via RabbitMQ, where write operations publish domain events that update the read model asynchronously.
- Built a **React + TypeScript** frontend with Vite and Shadcn/UI consuming the gateway API.

ClueGarden

SaaS Subscription Platform | Node.js, Express.js, Firebase, Stripe, Heroku

- Built a **backend payments and subscription management service** integrating Stripe and Firebase for a SaaS platform.
- Integrated **Stripe Checkout**, Billing Portal, and **webhook event processing** for full subscription lifecycle management including creation, updates, and cancellations, secured via **webhook signature verification**.
- Mirrored Stripe objects into **Firestore** for low-latency reads and audit trail, with **automated free trial expiration** via daily cron job.
- Implemented **Firebase Authentication** with JWT middleware for all protected endpoints across a component-based REST API separating users, billing, and payments modules.

Portfolio

Personal Portfolio | Next.js, React, TypeScript, Tailwind CSS, Anthropic SDK, Zod, Vercel

- Built a production-grade personal portfolio with **Next.js App Router** using a **hybrid SSR/CSR architecture** to maximize performance while keeping UI interactions client-side.
- Integrated an **AI-powered chat assistant** using **Claude Haiku** with tool-calling capabilities, fetching CV content, GitHub profile data, and performing scoped web searches in real time.
- Implemented a **custom i18n system** (EN/ES) without external libraries using React Context and cookie-based persistence for language and theme preferences.
- Built a **secure contact form** with Zod validation, HTML sanitization, and tiered in-memory rate limiting per-IP and global, with **prompt injection protection** on the AI layer.
- Designed a **custom design system** with Tailwind CSS custom tokens, dark/light mode via CSS variables, and custom React hooks for typewriter effects, infinite carousels, and responsive breakpoints.

EDUCATION

Pontificia Universidad Javeriana

Diploma in Software Architecture and Cloud Computing

2025

Cali, Colombia

Simon Bolivar University

Bachelor in Technology (BTech) in Computer Engineering

2013 – 2019

Caracas, Venezuela

CERTIFICATIONS

Modern Software Architecture: DDD, Events, Microservices	Apr 2025
Master in Microservices with JavaScript and Node.js	Mar 2025
AWS Cloud Technical Essentials	Jan 2025
EF SET Certificate	Jan 2025
Programming in Python	Apr 2024
Clean Code	Mar 2024

LANGUAGES

Spanish — Native
English — B2 (Professional Working Proficiency)

SKILLS

Languages: JavaScript, TypeScript, Python
Backend: Node.js, Express.js, NestJS, FastAPI, Kafka, RabbitMQ, SQS, Web2py
Frontend: React, Next.js, Remix, Redux, Vite, Tailwind CSS, Shadcn/UI, HTML5, CSS, Material UI, Bootstrap
AI & LLM: LangChain, OpenAI, Claude, Mistral AI, Langfuse, MCP, Prompt Engineering
Testing: Jest, Playwright, Puppeteer, Pytest
Databases: MongoDB, MySQL, PostgreSQL, Redis, Firebase, Supabase, DynamoDB, SQLite
Cloud & DevOps: AWS (EC2, ECS, ECR, Fargate, Lambda, S3, SQS, API Gateway, CloudWatch, CloudFormation), Google Cloud, Docker, GitHub Actions, Bitbucket Pipelines
Developer Tools: VSCode, Cursor, Windsurf, Postman, Insomnia, Swagger, Datadog, Git
Project Management: Jira, Linear, Bitbucket, GitHub
Concepts: OOP, Microservices Architecture, Event-Driven Architecture, Domain-Driven Design (DDD), CQRS, Hexagonal Architecture, MVC, Repository Pattern, Strategy Pattern, Design Patterns, REST API, GraphQL, CI/CD, Agile, Auto Scaling, Load Balancing, Serverless, Real-Time Applications, State Machines, Multi-tenancy, Idempotency, Dead Letter Queues, ABAC Authorization, OAuth, Webhook Processing, LLM-as-Judge