

# Jonathan Monsalve

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## Summary

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Engineering Manager and Systems Engineer with over 10 years of experience in designing and developing diverse computer systems. Passionate about creativity and innovation, embracing the philosophy that there is always room for improvement. In today's fast-paced tech environment, adaptability and quick iteration are crucial. Strong background in web development and Unix-based operating systems, with expertise in multidisciplinary teamwork, version control, project planning, and rigorous quality control. Committed to staying at the forefront of technology through continuous learning and adoption of new advancements.

## Skills

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- **Languages:** Ruby, Python, Golang, JavaScript
- **Frameworks:** Ruby on Rails, Django, FastAPI, Flask
- **Testing:** RSpec, Minitest, Pytest, Unittest, Cucumber
- **Cloud & DevOps:** AWS (Lambda, S3, API Gateway, EventBridge, Kinesis, Kafka, CloudWatch), CDK, CloudFormation, Linux Self-Hosting, Serverless Architectures, CI/CD Pipelines
- **Databases:** MySQL, PostgreSQL, MongoDB, DynamoDB
- **Frontend & UI:** HTML, CSS, JavaScript, Bootstrap
- **Tools:** Jira, Datadog, Sentry, Snowflake
- **Generative AI:** LangChain, Pinecone, Chroma, ChatGPT models, Copilot
- **Soft Skills:** Leadership, Communication, Team Building, Conflict Resolution, Decision-Making, Strategic Planning, Adaptability

## Professional Experience

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**Monarch Money**  
Staff Software Engineer

March 2025 – Current  
USA - Remote

- Joined the Aggregations team to optimize, enhance, and monitor integrations with key financial data aggregation providers.
- Led efforts to improve reliability and performance of account linking workflows, reducing error rates and improving user trust.
- Collaborated with cross-functional teams to onboard new aggregation sources, expanding coverage for users across banks and financial institutions.

**Quantum / Camino Financial**  
Engineering Manager

Oct 2021 – Aug 2024  
Mexico City, Mexico & USA

- Hired and developed an engineering team across the United States and Latin America, fostering a culture of technical rigor and continuous improvement.

- Led a system design overhaul, migrating from a monolithic architecture to AWS-based microservices, significantly reducing feature development time (2X).
- Implemented Test-Driven Development (TDD), continuous integration, and continuous deployment (CI/CD) practices to improve code quality and delivery.
- Built an automated Financial Health Analysis product from the ground up, reducing manual effort by 90% and scaling to support thousands of applications monthly.
- Deployed a digitized bank document extraction system, processing over 10,000 documents monthly with 95% accuracy for reliable financial insights.
- Integrated decision models to auto-decision 40% of applications, reducing underwriter workload and speeding up turnaround time.
- Collaborated with digital bank connection partners to enable on-demand cash flow analyses, enhancing operational flexibility.
- Reduced cash flow analysis time from 35 minutes to 2 minutes per application, boosting productivity and enabling a 17.5x increase in throughput.

#### **Covalto**

*Back-end Developer*

*Jan 2020 – Oct 2021*

*Mexico City, Mexico*

- Developed tailored credit solutions for restaurants in partnership with Uber Eats during the COVID-19 pandemic, showcasing adaptability.
- Contributed to the backend of web-based credit card products, accelerating Covalto's transition into a full-fledged financial institution.
- Progressively took on more responsibilities by demonstrating technical expertise and successfully delivering crucial backend projects.

#### **RunaHR**

*Back-end Leader*

*May 2019 – Dec 2019*

*Mexico City, Mexico*

- Promoted to Back-end Leader, scaling the company to support over 2,000 businesses and approximately 5,000 employees.
- Created and managed five agile squads to support rapid growth and feature delivery.

*Back-end Developer*

*Jun 2018 – May 2019*

*Mexico City, Mexico*

- Joined as an early employee to develop a payroll product, securing over 300 clients in the first year.
- Contributed core features for the payroll system, supporting the company's initial product launch.
- Implemented authentication and authorization systems, enhancing application security.

#### **Cleteci Panamá S.A.**

*Technical Leader*

*Oct 2017 – May 2018*

*Panamá - Remote*

- Led a team to develop a comprehensive platform for travel agents, managing flights, hotels, car rentals, and other vacation services.
- Advocated for modern development practices, including cloud computing, containerization, automated testing, and CI/CD pipelines.
- Set up continuous deployment pipelines, enabling frequent and reliable software releases.

#### **GN Marketing Inc.**

*Full-stack Developer*

*Aug 2015 – Sep 2017*

*Remote, USA*

- Developed and led a location-based advertising product, delivering notifications based on users' geographic positions.
- Pioneered the use of Docker for continuous integration and deployment, streamlining development workflows.
- Managed self-hosted Linux servers and improved system architecture.

**Biosoft C.A.**  
*Full-stack Developer*

*Oct 2014 – Jul 2015*  
*Mérida, Venezuela*

- Developed and maintained web applications focusing on login, authentication, and authorization systems.
- Created reusable software components such as dynamic forms, document management tools, and workflows using Petri nets.
- Contributed to server management and deployment on Linux self-hosted environments.

**Call & Call Mercadeo Directo C.A.**  
*Full-stack Developer*

*May 2014 – Sep 2014*  
*Mérida, Venezuela*

- Built web systems for contact center operators to record call results efficiently.
- Developed data analysis and quality control tools, enhancing client reporting for major Venezuelan companies.
- Managed servers and ensured high availability of web applications in a Red Hat Linux environment.

## Education

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**Systems Engineering**

*Universidad de Los Andes*

*Nov 2006 – Apr 2013, Mérida, Venezuela*

Thesis: *"Challenge to Complexity: BRAIN-CEMISID version 1.0. Design of an Operational Kernel for Constructing a Kernel-Brain in Parallel Programming using CUDA."*

## Training and Courses

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- **Mastering the System Design Interview**, Sundog Education by Frank Kane, Udemy, Sept 2024
  - **AWS Lambda and the Serverless Framework - Hands On Learning!**, Paulo Dichone, Udemy, Mar 2023
  - **Build a Backend REST API with Python & Django - Beginner**, Mark Winterbottom, Udemy, Aug 2020
  - **High Performance Computing: From Theory to Practice**, Ph.D. Juan Guillermo Gonzales, Accelogic, Dec 2014
  - **Multicores and Multithreading Architectures**, Francisco Tirado, Sep 2013
  - **Parallel Programming with Abstractions**, David Padua, Oct 2013
  - **Computer Science 101: Introduction to Computer Science**, Sebastian Thrun, Udemy, Apr 2012

## University Projects and Recognitions

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- **Analog Hydraulic System Emulator:** Designed and implemented an analog prototype in MATLAB to control water levels in a tank.
  - **Cultural Dictionary of the Andean Páramo:** Developed a PHP-based web project to document animal species and flora.
  - **MASTER FLAT Generator for IRAF:** CUDA-based project for processing and transforming space images.
  - **Source Code Converter:** Created a Bison/Flex-based tool to convert C code to Python as part of a compilers course.

- **WireFish Network Analyzer:** Built a TCP/IP traffic analyzer inspired by Wireshark, using C++ and Qt.
- **Cleda-plugin Development:** Created a plugin system for the Cleda Framework with XML, Echo3, Java, and Hibernate; recognized at the university's business fair.