

Leonardo Mercado

Software Engineer | Architecture | Backend | Full Stack

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Professional Summary

Software Engineer with 4+ years of experience architecting, developing, and deploying production web, backend, mobile, and robotics platforms. Experienced leading software initiatives from concept through deployment, designing scalable system architectures, mentoring engineers, and delivering production systems in startup and enterprise environments. Strong background in FastAPI, Java, Spring Boot, React, PostgreSQL, Docker, AWS, and modern DevOps practices.

Professional Experience

Techforce Robotics

Jan 2026 – Present

Lead Software Engineer

- Architected and led development of a Robotics-as-a-Service platform using FastAPI, React, PostgreSQL, Docker, REST APIs, and WebSockets for production deployments across hospitality, gaming, and education customers.
- Designed administrative and customer portals enabling business setup, robot provisioning, fleet configuration, and autonomous linen and waste collection workflows for 25 robots, 20+ daily users, and 30+ daily missions.
- Led the evolution from a monolithic architecture toward microservices as expanding robotics product lines introduced new scalability, maintainability, and service-boundary requirements.
- Designed and normalized PostgreSQL schemas, maintained OpenAPI/Swagger documentation, and created architecture documentation and standard operating procedures to improve maintainability and operational consistency.
- Designed secure on-premises deployment infrastructure using Dockerfiles, Docker Compose, multi-container deployments, reverse proxies, TLS, Cloudflare, redundant production servers, environment management, and dedicated test environments.
- Led sprint planning, work distribution, pull request reviews, code reviews, coordinated releases, deployments, mentoring, and production support while implementing a communication layer between remote services and PLC hardware.

Exact Sciences

Aug 2024 – Jan 2026

Software Engineer

- Developed and maintained backend services using Java, Spring Boot, Hibernate, SQL, and REST APIs, implementing business functionality, role-based authorization, data processing, XML report updates, and automated email delivery.
- Co-developed Selenium and JUnit automation frameworks from scratch with two engineers, integrating execution into GitLab CI/CD and automating end-to-end happy paths, failure scenarios, and feature-specific regression suites.
- Reduced manual QA effort by approximately 30% while improving release confidence through 30+ personally developed automated test cases across four repositories.
- Collaborated within a 10-engineer Agile team through sprint planning, backlog refinement, design discussions, architecture reviews, and cross-functional technical meetings.

Distridav

Apr 2025 – Oct 2025

Freelance Software Engineer

- Designed, developed, and deployed a production Next.js website from Figma designs, replacing a legacy Google Sites implementation with a responsive customer-facing web experience.
- Improved discoverability and maintainability through SEO-focused metadata, semantic HTML, responsive CSS, and production-ready frontend implementation.

CBLUNA

Jun 2022 – Aug 2024

Software Engineer

- Developed and maintained 5+ web and mobile applications using Flutter, Firebase, REST APIs, and modern web technologies across six client projects.
- Implemented camera integration, authentication, push notifications, real-time updates, offline persistence, scheduling, and Firebase-backed mobile workflows.
- Built customer-facing web applications supporting payments, telephone number porting, and informational landing pages for domestic and international clients.
- Collaborated with seven engineers and progressed to end-to-end ownership of application delivery across multiple client engagements.

Education

Instituto Tecnológico de Tijuana

B.S. in Systems Engineering

2025

GPA: 3.8 / 4.0

Core Technologies

Languages: Java, Python, TypeScript, JavaScript, SQL, Dart, C#

Backend: FastAPI, Spring Boot, Hibernate, REST APIs, WebSockets

Frontend & Mobile: React, Next.js, Flutter, HTML, CSS

Cloud & Infrastructure: AWS (EC2, Lambda, S3), Docker, Docker Compose, PostgreSQL, MySQL, SQL Server, SQLite, Cloudflare, Reverse Proxies, GitLab CI/CD

Engineering: Software Architecture, Microservices, Database Design, System Design, Technical Leadership, Code Reviews, Agile, Scrum

Testing: JUnit, Selenium, Unit Testing, End-to-End Testing

Languages: English (Native/Bilingual), Spanish (Native/Bilingual)