

# Gabriel Bernal

## Contact

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## Professional Summary

Software engineer with over ten years of experience in the development and implementation of distributed systems and decoupled applications. As a leader, collaborate with interdisciplinary teams, share knowledge and experience, and promote continuous improvement and innovation.

## Accomplishments

- Business-based E2E tests component designed and implemented using Clojure.
- Solid practical knowledge acquired in building interpreters, improving business process readability to 300% using Clojure.
- Exhaustive property-based testing using Clojure, ensuring 100% business process quality.
- Developed solid working knowledge of engineering, design and architecture as Technical Lead on team of 15.

## Skills

- **Complex problem-solving and solutions-oriented mindset**
- **Proficient in Java, Kotlin, Go, Python, React, Redux, NodeJS, TS, Clojure, Haskell, C#, VB.NET, F#, C++ and others.**
- **Immutable robust architectures.**
- **Solid knowledge in SLDC/SLTC processes in CI/CD pipelines and containerized applications.**
- **Design of zero downtime solutions oriented and distributed scalable systems.**
- **Technical Project Leadership**
- **Proficient in common cloud Platforms (AWS, GCP and Azure).**
- **Critical Thinking and Decision-Making Capabilities.**
- **Quality-first mindset for oriented-automation tools.**
- **Technical mentoring.**

## Work History

02.2022 - Current

### ***SENIOR SOFTWARE ENGINEER***

MercadoLibre - Colombia

- Design and implementation of FSMs to model computable solutions generating transactional increase of more than 300% in each one and reducing cost of change in applications by more than 80% and tending to zero downtime solutions.
- Design and implementation of deterministic solution for chaotic inventories based on market forecasts reducing Days-On-Hand by more than 70%.
- Flexible automated pricing solution with trading strategy simulation engine that guarantees quality of more than 97%.
- Pricing strategy management engine with syntactic and semantic strategy formulation checker.
- Design and implementation of abrupt price alert system with automatic product moderation, achieving losses due to erroneous price allocation of less than 0.002%.
- Data acquisition and processing using common BigData processing libraries.
- Design and implementation of data projections to create dashboard that displays trends, alarms and control actions across multiple applications (chaotic stock inventory, price alert manager, etc.), and allows users to zoom, filter and export data to make critical business decisions.
- Integration and automation of data with other systems, such as databases, cloud services or web applications, for data management.
- +100 mentoring slots to improve scalable system design capabilities of team's developers.
- Design of strategies to ensure quality in terms of testing and scalable and robust code in more than 4 (25+ services) scaling productive traffic to 100% Marketplace transactions in 18 countries where we have presence.
- +15 IT talks to improve developer's technical capacity.

02.2021 - 02.2022

### ***SEMI SENIOR SOFTWARE ENGINEER***

MercadoLibre - Colombia

- Construction of computational simulation model that evolved to more than 400 business variables.
- Design and successful implementation of discrete pricing engines for dynamic and flexible calculation of automatic pricing strategies.
- Reduced complexity of pricing strategy simulation system by more than 50% through use of flexible decision table.
- Team design and implementation of business event-driven architecture optimized to scale business and technology with simplicity.
- Use of agile methodologies and best practices to design architecture to automate error recovery and reliability, reducing time spent on maintenance by 80%.

- Apply effective design patterns in functional and object-oriented paradigms to improve software quality attributes and solution performance.
- Apply FCIS principles, deferred evaluation, seamless parallelism and immutability architectures.

07.2020 - 02.2021

### ***SOFTWARE LIFECYCLE ADMINISTRATOR***

SISTRAN - Colombia

- Provide complementary vision with implementation of more than 20 client processes automating software lifecycle, continuous build and deployment.
- Ensure compliance with versioning guidelines using various enterprise information asset management strategies (source code), coaching over 7 teams in adoption.
- Implement effective design patterns in 15+ applications that enhance privileged software quality attributes based on context provided by architect.
- Design templates and software base constructs that respect Software Architecture guidelines, best practices and application of innovative strategies and experiences.

01.2017 - 07.2020

### ***SENIOR DEVELOPMENT ANALYST***

SISTRAN - Colombia

- Provide a specialized and personalized service to clients (representing more than 74% of insurance transactions in LATAM) in maintenance and development of Core Business applications.
- Implement more than 8 projects using Object-Oriented Programming (OOP) languages.
- Implement functional programming design patterns to improve process visibility from code and promote single accountability in minimum software development units in more than 10 applications.
- Implement robust error handling, error propagation, and asynchronous deployment strategies in 10+ distributed systems.
- Design, interpret, implement and document software solutions.
- Gather business information for building lightweight and efficient domain models, decreasing overall system size by more than 70%.
- Minimize I/O side effects, reducing system maintenance complexity by more than 50%.
- Implement the use of event-driven architectures, data-driven decision making and application decoupling to improve maintainability and promote true modularity between components, minimizing stickiness and boosting cohesion by more than 75%.
- Implemented integrations between more than 18 systems using different technologies for the orchestration of domain models in more than 5 insurance companies.

02.2015 - 01.2017

## **SENIOR SYSTEMS ANALYST**

SISTRAN - Colombia

- Develop business and integration applications in .NET on Framework 3.5 or higher
- Apply design patterns to improve the processes of insurance companies and minimize error materialization
- Present to the client the business model for the developed applications and demonstrate the business process that supports specific use cases
- Test applications in QA environments
- Identify client needs and present software designs to address them
- Develop components to automate deployment tasks and documentation of the developed software.

05.2013 - 01.2015

## **JUNIOR DEVELOPER**

SISTRAN - Colombia

- Development of more than 110 new features in client-server applications and optimization of more than 20 databases with an effectiveness of more than 90%.
- More than 200 deployments in test and production environments.
- Creation of more than 12 jobs that allow the automation of processes in more than 50% of the company's clients.
- Creation of the automatic documenter for software deliveries with customizable templates for each client.

## **Education**

01.2018

AXELOS, ITIL Foundation Certificate in IT Service Management - Bogotá, Colombia

01.2016

Microsoft Colombia, Microsoft Certified Professional (E080 - 1926) - Bogotá, Colombia

01.2013

National Learning Service (SENA), Technologist in Systems Analysis and Design - Bogotá, Colombia

## **Languages**

**Spanish:**

C2

Proficient

**English:**

B2

Upper intermediate

**Colombian Sign Language:**

C1

Advanced

## **References**

- Carlos CASTRO, SISTRAN Mexico | Account Lead, +57 301 204 6229  
Mexico: +52 56 2006 4610

- Michael MARTINEZ, MercadoLibre Colombia | MercadoPlay Technical Lead, +57 300 611 1867
- Óscar Gómez, MercadoLibre Colombia | Software Manager, +57 311 561 5717

## Additional Skills

- DDD, TDD and BDD approaches
- Functional and Reactive Programming
- Automation of Testing and Deployments
- Design Patterns
- Agile Methodologies (SCRUM, Kanban, Crystal Clear)
- CQRS
- SQL and NoSQL technologies (MongoDB, Redis, DynamoDB, DatomicDB, Transact-SQL, PL/SQL, etc)
- Common web frameworks (Django, SpringBoot, .NET Core, .NET Framework, Ring, EF Core, etc).