

# Brayme Guaman

Software Engineer



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## Skills

### Programming

0 LOC —————> 5000 LOC

Java • GO (Golang) • Kotlin

C++ • JavaScript

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## Education

Ing., Computer Science 2010 - 2017

University of Cuenca, Ecuador

## Research

Ing. Candidate, Graduate 2016 - 2017

University of Cuenca

**Thesis:** Análisis de rendimiento de un clúster HPC y, arquitecturas manycore y multicores.

- Proposed the parallelization of algorithm from WRF(Weather Research and Forecasting) and running on GPU's, Intel co-processor and Cluster HPC
- **Tools:** CUDA, OpenCL, MPI, C, CentOS Rocks HPC

## Publications

GUAMÁN, Brayme; SOLANO, Lizandro. WRF, análisis de rendimiento en clústeres HPC. Maskana, 2017, vol. 8, p. 403-412.

P. Contreras, B. Guamán, M. Saca, F. Sumba and M. Falconí, "Measurement of height through software developed for mobile devices for the growth control in children," 2014 IEEE ANDESCON, Cochabamba, 2014, pp. 1-1.

## Selected Project Highlights

### Toll roads control

- Designed and developed a system with three components: an agent for sensor management, a server for processing payments, and an interface for sensor and payment control. Automated management of over 200 tolls.
- Developed the agent component to works offline, to control tolls, to achieve this a queue system using SQLite and Goroutines to manage events was used. Together with a Feature Flag system, to enable a direct connection between user interface and agent. Reduce the time to work manually to zero, avoiding money lost.
- Golang, Goroutines, SQLite, PostgreSQL, AWS, ECS, TCP protocol.

### Calendar for medical appointments - Founder

- Designed the data model to manage the calendar configuration and develop the algorithm to render the available slots for clients given a flexible way to achieve all configurations(days off, period time, segment available times ) in a calendar.
- Developed the integration with Whatsapp, SMS, Google Login, and local payment methods, to have appointment confirmations.
- Golang, Goroutines, PostgreSQL, AWS, Lambdas.

## Experience

- Member of the core team, where we design and develop horizontal features of direct impact on the main product. Due to numerous requests, and lot of stored data, our development features are focused on code optimization, database design in conjunction with the cache system(Redis), and bus (Rabbit MQ) to achieve high performance and reduce waiting times.
- Implemented an cache strategy in 2 levels, first per microservice instance, and second using Redis for the calculation of tree structures, reducing the waiting time in devices request by a factor of 10, for the clients which have large data. Using Kotlin coroutines to do part of the process asynchronously.
- Developed core classes to improve the quality code and easier way to build integration testing (TestNG) for the rest of the team. Also I have increased the percentage coverage of the project from 30 to 40 percent by a re-designing class model with SOLID principles it give us a easy way to inject and use mocks with Mokka and JUnit .

**Software Engineer II** May 2021 - May 2022

TangoCode LLC

- Building pipelines with CodeShip, packaging processes with Gradle and Maven, and managing infrastructure using Serverless Framework. The packaging stage was optimized using AWS layers and small JARs instead of Uber JARs. Versioning of new JARs was automated with git tags and configured inside of CodeShip. Unit and integration testing were automated in the pipelines to avoid regressions.
- Designing and building an integration engine to connect to several ads platforms (Google Ads, Facebook Ads, etc.) from scratch on AWS using Java and Kotlin. The design was based on serverless architecture, data stores were deployed using containers (Docker) with EC2. Additionally, a system for managing load data and retrying errors was designed with AWS SQS.
- Development of tests following a TDD methodology, using JUnit, MockK, and Mockito tools to achieve 80
- Mentoring in Java and Kotlin for new team members and entry-level developers.

**Software Engineer** April 2020 - May 2021

RAPPI Corporation

- Development of a betting project working in different countries: Colombia and Mexico. Responsibilities included the management of payments, winnings, and notifications. The project involved designing an event-oriented microservices architecture, using KAFKA and ActiveMQ.
- The project was designed and developed using a microservices architecture and deployed with containers.
- Implementation of a cache system (Redis) to reduce waiting times for getting odds bets.
- Development was done with Kotlin, Spring framework, and reactive programming (ReactiveX) to achieve better performance.

**DevOps and Software Engineer** June 2019 - April 2020

COAC Jardin Azuayo

- Implemented a containers (Docker) architecture, using Docker Compose to automate local deployments. Designed Git Workflow and pipelines for CI/CD using Jenkins.
- Worked as a code reviewer, improving Java (Spring) applications and optimizing SQL. Also, refactored from Java using functional programming paradigms.
- Designed the system architecture for microservices and batch processes for an interchange of transactions between bank systems from scratch using Spring and Java 11.

**Software Engineer** Jan 2018 - May 2019

SoftCase

- Designed a REST API for integrating several healthcare systems and sharing radiology images with the MirthConnect engine using the HL7 protocol.
- Worked as a backend developer using Java 8, building REST and SOAP APIs.