# Miguel Couto de Almeida

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Personal Website | Linkedin | Github

## Summary

Software Engineer with experience in developing scalable full-stack applications. Passionate about leveraging technology to drive innovation.

## Education

**Instituto Superior de Engenharia de Lisboa**, BSc in Computer Science and Engineering                    Sept 2019 – Jul 2023

## Experience

**Software Development Trainee**, Infinera – Lisbon, Portugal                    Sept 2023 – Jul 2024

Contributed to the development and maintenance of a large-scale, microservices-based application in the R&D department, designed for planning, real-time control, and monitoring of multi-layer communication networks within an Agile Scrum environment.

- Implemented comprehensive testing strategies, including unit, integration, and end-to-end tests, significantly enhancing code quality and system reliability.
- Developed and maintained detailed component documentation, improving knowledge sharing and streamlining onboarding processes.
- Diagnosed and resolved software bugs, increasing system stability and performance.
- Collaborated closely with cross-functional Agile teams to ensure smooth project execution.

Technologies and Tools: Java 17, Spring, JSON, REST, Protobuf 2, gRPC, Kafka, Docker, Nginx, OracleDB, JPA, Hibernate

**Speaker**, Bitcoin Atlantis Conference – Funchal, Madeira                    Mar 2024 – Mar 2024

As the Co-Founder of our Bitcoin Education Project, I had the unique opportunity to take the lead in planning and arranging an entire day of educational content for the Portuguese audience at the Bitcoin Atlantis Conference in Funchal, Madeira, in March 2024. With over 3,000 attendees, and invited by André Loja, the Founder of FREE Madeira, I organized a comprehensive series of lectures and workshops designed to deepen understanding and practical use of Bitcoin, such as:

- Defining the Problem and Designing the Solution with Bitcoin
- How Bitcoin Works and The Bitcoin Standard
- On-Chain and Lightning Network Usage for Merchants and End Users
- Self-Custody, Security, and Privacy Concerns
- Bitcoin Inheritance Solutions

**Co-Founder & Host**, Aceita Bitcoin                    Jan 2020 – Present

Co-founded "Aceita Bitcoin", an initiative aimed at promoting Bitcoin education and adoption in Portugal. Featured by the Portuguese Mises Institute and recognized in the Região de Leiria journal for its discussions on bitcoin-economics. As part of this initiative, I also host the podcast, where I engage with prominent figures from various sectors, including engineers, economists and university professors.

## Projects

**Battleships App - Full-Stack Web and Mobile Application (Android)**                    github.com

Developed an online, cross-platform version of the classic Battleships game allowing players to connect and compete.

- Technologies and Tools: Kotlin, Spring Boot, React, Typescript, Android Development, Jetpack Compose, Docker,

Nginx, PostgreSQL

**Document Workflow Platform - Full-Stack Web Application** github.com

Built a permission-based, signature-oriented platform to simplify document validation, editing, and signing processes for groups of users.

- Technologies and Tools: Kotlin, Spring Boot, React, Typescript, Docker, PostgreSQL

**Landmark Identification App - Distributed System for Cloud Computing Tasks** github.com

Designed and implemented a system to detect and verify famous landmarks in images, adapting to load variations using Google Cloud Platform services.

- Technologies and Tools: Java, Cloud Functions, Pub/Sub, GCP, Compute Engine, Vision API, gRPC, Protocol Buffers, Google Maps API, Cloud Firestore

**BORGA Web App - Web Application** github.com

Integrated with the Board Game Atlas API to allow users to manage and create board game groups.

- Technologies and Tools: Javascript, NodeJs, ExpressJs, Elasticsearch, Handlebars.

**Chess4Desktop - Desktop Application** github.com

Developed a simple desktop chess game using Kotlin and Desktop Jetpack Compose with MongoDB for storage.

- Technologies and Tools: Kotlin, Jetpack Compose, MongoDB.

**JSON Parser Library - Custom JSON Parsing Library in Kotlin** github.com

Developed a JSON parser library using JavaPoet for code generation and JMH for benchmarking. Leveraged Kotlin's reflection library to enhance parsing efficiency and flexibility across diverse data structures.

- Technologies and Tools: Kotlin, JavaPoet, JMH, Kotlin Reflection

## Technologies

**Languages:** Java, Kotlin, JavaScript, Typescript, Python, SQL, PL/pgSQL

**Frameworks/Tools:** Spring, NodeJS, gRPC, Jetpack Compose, React, Bootstrap, Docker, Nginx, REST API, JSON, Protobuf, Siren Hypermedia

**Cloud Platforms:** Google Cloud Platform, Firestore, Pub/Sub, Cloud Functions, Compute Engine

**Databases:** PostgreSQL, MongoDB, Elasticsearch