

# Borja Castellano Extremadouro

Backend & Systems Software Engineer

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[Github](#) • [Portfolio](#) • [LeetCode](#) • [LinkedIn](#)

## Summary

Systems and Backend Software Engineer with a strong foundation in mathematics and hands-on experience in low-level programming using **Rust, C/C++, and Java**. Skilled in **problem solving, backend systems, systems, databases, parallelism, algorithm optimization**, and **high-performance computing**, with a proven record of **self-directed learning**.

## Work Experience

### CESGA, Santiago de Compostela, GA, Spain

*Scientific and Parallel Computing Software Engineer Intern* | 04/2025 – 07/2025

Designed, developed, optimized and parallelized HPC algorithms using **MPI, CUDA, and OpenMP** on the **Finisterrae III** supporting research on uncertainty quantification.

- **Improved algorithm performance up to a 95%** using different techniques and tools like **perf** and **Valgrind**.
- Contributed to **large-scale scientific codebases** in **MATLAB, Fortran, C, C++, and Rust**.
- **Delivered production-ready software** and collaborated with researchers from CSIC.

### Freelance, GA, Spain

*Software Developer* | 08/2024 – 04/2025

Designed, developed and delivered software solutions for one company ensuring **reliability, usability, maintainability** and **performance**.

- **Designed and developed cross-platform and extensible** desktop applications using **Java** and **JavaFX**.
- **Deployed and maintained** REST APIs and backend systems using **Docker, Rocket, Actix, Hibernate**, and **Spring**, ensuring high availability and reliability.
- **Designed** TCP/IP communication protocols to optimize intranet communications.
- **Implemented** automated tests and CI/CD pipelines to ensure **code quality** and **robustness**.

## Open Source Collaborations

**Aria Language** | [Repository](#) | Active maintainer

Rust-based interpreted scripting language focused on code safety. Responsible for performance optimization, test maintenance, and feature development for both the language and its virtual machine.

## Education

### IES Chan do Monte

*Bachelor's Degree in Software Engineering* | 09/2023 – 07/2025 | GPA 4.0/4.0 – Highest Honors

### University of Santiago de Compostela

*Bachelor's Degree in Mathematics* | 09/2018 – 07/2022 | GPA 3.3/4.0

## **Skills**

- **Programming languages:** Rust, Java, C, C++, C#, Bash, Embedded C and Rust
- **Frameworks:** JavaFX, Iced, Spring, Actix, Yew, Rocket, Unity, Hibernate
- **Technologies and Tools:** Docker, Git, Github
- **Databases:** MySQL, MariaDB, MS SQL Server, SQLite, MongoDB
- **DevOps and Infrastructure:** Nginx, Github Actions, Ubuntu Server, Proxmox, Linux, CI/CD
- **High Performance and Parallel computing:** MPI, CUDA, OpenMP, SLURM
- **Others:** OOP, Algorithms, Data Structures, Software Design and Architecture

## **Languages**

- **English:** Fluent
- **Castilian Spanish:** Native

## **Soft Skills**

Research and analytical thinking, self-motivation, continuous learning, effective communication, creative problem-solving, leadership, and teamwork.