

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.