Borja Castellano Extremadouro

Backend & Systems Software Engineer

Lake Tapps, WA, United States | borjacastellano1@gmail.com | +1 (206) 437-0159

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 **backend systems, 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
Developed and optimized HPC algorithms supporting research on uncertainty quantification and performance tuning.
- Made scalability studies and performed performance analysis using **perf** and *Valgrind* and **improved algorithm performance up to a 95%**.
- Contributed to the maintenance and extension of **large-scale scientific codebases** in **MATLAB, Fortran, C, C++, and Rust**.
- **Optimized and parallelized** computational research workloads using **MPI, CUDA, and OpenMP** on the **Finisterrae III** multi-node Gentoo cluster managed with **SLURM**.
- **Collaborated with researchers from CSIC** to deliver production-ready scientific software.

Freelance, GA, Spain
Software Developer | 08/2024 – 04/2025
Delivered end-to-end software solutions for multiple clients, ensuring **reliability**, **performance**, and **timely delivery**.
- **Built cross-platform** desktop applications using **Java and JavaFX**, focusing on performance, usability, and maintainability.
- **Deployed and maintained** scalable web services, REST APIs, and backend systems using **Docker**, **Rocket**, **Actix**, **Hibernate**, and **Spring**, ensuring high availability and reliability.
- **Designed and implemented** custom **TCP/IP communication protocols** to optimize intranet communication.
- **Developed** automated tests and CI pipelines to ensure **code quality** and **robustness.**
- **Collaborated directly with clients** to align **technical solutions with business objectives** and deliver production-ready systems.

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
- **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.