

# Ricardo Ribeiro

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Hi, my name is Ricardo, I'm a generalist programmer if it needs to be done I'm up for the challenge. I'm able to learn quickly, navigate complex code bases and try to simplify it.

**Interests:** systems prog, performance, tooling, DOD, everything real-time 3D, C, GPU, SIMD...

## TECHNICAL SKILLS

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**Languages:** C, C++, Python, Go, Java, SQL (Postgres), OpenGL, Google Test

**Frameworks:** Spring, Apache Airflow

**Developer Tools:** Linux, Git, Docker, Kubernetes, Ansible, Bazel

## EXPERIENCE

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### Software Engineer - Autonomous Driving Features

Jan. 2024 – Now

*CriticalTechWorks (BMW)*

*Porto, Portugal*

- Implemented Map features for autonomous driving
- Lead architecture of newly safety module for AD functions
- **Tech:** C, C++, Python, Docker, GTest, Bazel

### Software Engineer - Autonomous Driving Lateral Features

Mar. 2023 – Dec. 2023

*CriticalTechWorks (BMW)*

*Lisbon, Portugal*

- Helped develop Active Lane Guiding feature for level 2+ systems
- Created solution for running the Testing Framework locally with knowledge for my prior project
- Assisted in the creation of tools for trace analysis of drives, enabling a faster iteration for developers
- **Tech:** C, C++, Python, Docker, GTest, Bazel

### Software Engineer - Autonomous Driving Testing Framework and Service

Feb. 2022 – Mar. 2023

*CriticalTechWorks (BMW)*

*Porto, Portugal*

- Helping build reprocessing platform for Autonomous Driving for BMW
- Implemented a new feature for managing issues on car logging sessions to save all developers' testing time
- Worked on a Postgres mirror from MaprDB using Foreign Data Wrappers, improve logging on an open-source postgres extension in C. Introduced static type checking improving Python Airflow code quality
- **Tech:** Java Spring Backend, C++ Automotive (CAN, ETH, FlexRay...), Python, Apache Airflow, Ansible, Helm, Openshift, Zull CI, Docker, PostgreSQL, MaprDB, Grafana, Prometheus

### Software Engineer Intern

Feb. 2020 – June 2020

*Faro Technologies*

*Porto, Portugal*

- Designed system from scratch for a back office web app to manage product life cycle of desktop apps
- Developed frontend, backend and database modeling
- **Tech:** React (Typescript), .NET Core, EF Core, Docker

## PROJECTS

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### 3D Engine | C++, OpenGL

- 3D engine capable of doing basic rendering, framebuffers, lighting
- OBJ loading using tinyobjloader
- Custom arena allocator and math library
- Using ImGui, Cmake, GLFW

## EDUCATION / CERTIFICATES

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### Machine Learning Specialization

July 2022

*Coursera*

### Bachelor of Informatics Engineering

Sep. 2017 – Feb 2021

*Instituto Superior de Engenharia do Porto*

*Porto, Portugal*

### IELTS Certificate

June 2021

*British Council*

*Porto, Portugal*