Ricardo

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https://ricardonunosr.github.io/website/

EDUCATION

Instituto Superior de Engenharia do Porto   Porto, Portugal
Bachelor's of Informatics Engineering   *Sep 2017 — Feb 2022*
- Cumulative GPA: 15/20

IELTS   Porto, Portugal
English Certificate   *Sep 2017 — Feb 2022*

Confucious Institute of Aveiro   Aveiro, Portugal
Mandarin - Beginner Course   *Sep 2024 — Jun 2025*

WORK EXPERIENCE

ML Ops Engineer - Traffic Ligths   Jan 2025 — Present
Critical Techworks / BMW   *Porto, Portugal*
- Architected/Implemented Training Pipeline in AWS for model deployed on the car for traffic light reasoning.
- Use Python CDK to write all the pipelines IaC.
- **Tech:** AWS, CDK, Seedfarmer, C++, Python, Docker, GTest, Bazel

C++ ADAS Engineer - Map features and Side Collision Detection   Jan 2024 — Jan 2025
Critical Techworks / BMW   *Porto, Portugal*
- Implemented Map features as a service for customer facing developers ease of use in autonomous driving.
- Lead architecture of newly safety module for side collision detections for AD functions.
- **Tech:** C, C++, Python, Docker, GTest, Bazel

C++ ADAS Engineer - AD Lateral Features   Mar 2023 — Dec 2023
Critical Techworks / BMW   *Porto, Portugal*
- Helped develop Active Lane Guiding feature for level 2+ systems in BMW cars enabling drivers to relax on the highway.
- 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

Fullstack Engineer - AD Testing Framework and Service   Feb 2022 — Mar 2023
Critical Techworks / 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

PROJECTS

3D Rendering Engine   Nov 2023 — Present
- 3D engine capable of doing basic rendering, framebuffers, lighting
- OBJ loading using tinyobjloader
- Custom arena allocator and math library
- Using ImGui, Cmake, GLFW

SKILLS

- **Programming Languages**: C, C++, Python, Go, Java, SQL (Postgres), OpenGL, Google Test
- **Technologies**: Spring, Apache Airflow, Linux, Git, Docker, Kubernetes, Ansible, Bazel, Amazon Web Services