Eduardo Borges

⊙ Coimbra, Portugal ✉ eduardojsborges@gmail.com in eduardojsborges ⓘ 0000-0002-4454-6182

Education

University of Coimbra   *Sept 2022 – Sept 2024*

MS in Electrical and Computer Engineering – Robotics, Control, and Artificial Intelligence

- **GPA:** 19/20
- Advanced coursework in robotics, control systems, and machine learning.
- Completed a master's dissertation on DL-Based Multimodal Object Detection and Tracking Targeting Industrial AMRs", earning a grade of 20/20.

Polytechnic University of Coimbra   *Oct 2021 – July 2022*

BS in Electrical Engineering – Automation

- **GPA:** 16/20
- Specialized in control systems and industrial automation with a focus on global engineering impacts.
- Honed skills in project management and professional ethics.

Polytechnic University of Coimbra   *Sept 2018 – July 2021*

BS in Biomedical Engineering – Bioelectronics

- **GPA:** 16/20
- Strong foundation in Physics, Mathematics, and Electrical Engineering applied to biomedical systems.
- Developed engineering solutions for healthcare, integrating electronics, microprocessors, and programming.
- Presented a final internship report, achieving a 19/20 evaluation.

Experience

Master Researcher   *Coimbra, Portugal*

Institute of Systems and Robotics – University of Coimbra   *Jan 2025 – present*

- Implementing a ROS-based multimodal detection & tracking system for industrial AMR safety.
- Designing and integrating an object re-identification module into a real-time detection & tracking pipeline.

Student Researcher   *Coimbra, Portugal*

Institute of Systems and Robotics – University of Coimbra   *Jan 2024 – Dec 2024*

- Conducted a comprehensive literature review on RGB-D and 3D point cloud object detection and tracking.
- Developed a multimodal object detection and tracking approach for collision avoidance in industrial settings.
- Collected and prepared a multimodal dataset in an industrial environment.
- Visited the University of Greifswald, in Germany, collaborating with researchers to plan future joint projects.

Quality Engineer Intern   *Coimbra, Portugal*

Olympus Medical Products Portugal   *Mar 2021 – June 2021*

- Reduced errors and improved repair processes by creating quality documentation.
- Enhanced operational efficiency by investigating and resolving recurring issues.
- Tested and proposed new tools for integration into workflows.

Research Interests

Computer Vision • Machine Learning • Robotics

Publications

A Modular Multimodal Multi-Object Tracking-by-Detection Approach, Nov 2024
with Applications in Outdoor and Indoor Environments

Eduardo Borges, Luís Garrote, Urbano Nunes

[10.5220/0013073200003822](#) (Presented at the 21st International Conference on Informatics in Control, Automation and Robotics, ICINCO)

Other Projects

Digitalized Inclusivity *Mar 2022 – June 2022*

- ◦ Collaborated with international students and partnered with the APPACDM Coimbra to develop digital tools enhancing independence and quality of life for people with mental disabilities. [Certificate](#)

Awards and Grants

Merit Board Member (2022/23): Recognized as part of the top 5% of Bachelor's and Master's students in the University of Coimbra

Merit Board Member (2023/24): Recognized as part of the top 5% of Bachelor's and Master's students in the University of Coimbra

Research Initiation Grant (2024): Awarded by the project "GreenAuto: Green innovation for the Automotive Industry". [Project page](#)

ABB-FCTUC Award (2024): Best Master's dissertation for "DL-Based Multimodal Object Detection and Tracking Targeting Industrial AMRs". Award includes a €1000 prize and a paid internship opportunity at ABB

Master Research Grant (2025): Awarded by the project "GreenAuto: Green innovation for the Automotive Industry". [Project page](#)

Skills

Programming: Python (PyTorch, OpenCV, SciPy, Scikit-learn, NumPy) • C • MATLAB • LaTeX

Languages: Portuguese (Native) • English (Advanced, DET: 150/160)