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# Ricardo Cordeiro

## Computer science and engineering

**About me** During my academic path, I grew to take interest in multiple fields of informatics like compilation techniques and robotics, even attending some conventions like ROSCon and RoSE. In my free time, I'm developing a game and learning Japanese. Feel free to reach me if you wish to know more!

## Education

### 2020 - 2023, Masters Degree, Computer science and engineering

Main Courses: (Average: 15.4)

- Compilation Techniques: 16
- Artificial Intelligence in Games: 17
- Automatic Learning: 16
- Game Design and Development: 17
- Multi-Agent Systems: 16

Final Dissertation on "*Formalization and Runtime Verification of Invariants for Robotic Systems*" advised by Alcides Fonseca professor at University of Lisbon and by Chris Timperley professor at Carnegie Mellon University.

### 2016 - 2019, Licentiate Degree, Computer science and engineering

Main Courses: (Average: 14)

- Information Technology in the User's Perspective: 17
- Computer Network: 16
- Introduction to Operational Research: 16
- Introduction to Programming: 18
- First Order Logic: 17
- Introduction to Probabilities and Statistics: 17

## Experience

### Sep 2022 - Current, Software Developer at Körber Supply Chain

Working in developing solutions for warehouse management. Mainly PL/SQL package creation for all the associated logic. Creation of User Interface through a interface of the company Java framework.

### Sep 2019 - Jul 2020, Junior Consultant at ROFF

Working at a support service, mainly with SAP Portal/SAP Netweaver as a frontend Java framework and using Oracle SQL Developer as a persistence framework, I often had to access SAP ERP and ABAP code as a backend framework. This means I am somewhat familiar with their Model View Controller architecture. There were also different types of Data Services handled either by SAP BI or directly with Java code. When there wasn't much support service work-related stuff I would help the development team or develop helpful tools myself.

## Other Experiences

### Sports

I practiced federate Basketball since I was 6 up until university, holding

Captain, I kept playing at university, although at a

## Interesting work

**Error Monitor DSL (ros + gazebo)** (GitHub) A domain-specific language to specify properties of robotic systems in ROS. Specifications written by developers in this language can be compiled to a monitor ROS module, that will detect violations of those properties. We have used this language to express the temporal and positional properties of robots, and we have automated the monitoring of some behavioral violations of robots in relation to their state or events during a simulation. I presented this work at INForum 2022.

**An Experience Report on Challenges in Learning the Robot Operating System** I have helped writing a paper where we describe the challenges and experience of learning ROS from the perspective of novice users. This work was presented by my colleague Paulo Canelas at RoSE 2022.

**Secret Hitler - AI Agents** (GitHub) Agents simulate different players' behavior for the Secret Hitler game. Agents have their own memory and comprehension of what happens in the game and make their decisions based on this perception. (Using JADE - JAVA Agent DEvelopment Framework)

## Tools and Technologies

### Programming Languages

- Java
- Python
- Jinja
- C#
- ABAP
- C
- PL/SQL

### Databases

- SQL
- OracleSQLDeveloper

### Others

- ROS
- Gazebo
- Docker
- SAP Netweaver
- SAP Portal
- SAP ERP
- SAP BI
- Git
- Unity
- HTML
- Microsoft Office
- JADE