ANTÓNIO MORAIS

MSc degree in Electrical and Computer Engineering

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MSc student in Electrical and Computer Engineering at Instituto Superior Técnico, with a strong interest in Artificial Intelligence, Data Science, Robotics and Computer Systems. Experienced in Python, C and MATLAB, as well as with ROS and Git. Continuously improving my soft skills through volunteering experiences and by organizing an event.

PROJECTS

Member of the SocRob@Home team
Institute For Systems and Robotics @IST

📅 Feb 2025 - Present   📍 Lisbon, Portugal

- Currently enhancing the conversational capabilities of the TIAGo robot to enable more natural and engaging interactions with humans.
- Until now, the robot has relied on hardcoded speech. By integrating LLMs, it will be able to conduct more fluid and natural conversations, while still operating in a half-duplex mode.

Member of the PIC1 SocRob@Home team
Institute For Systems and Robotics @IST

📅 Nov 2023 - Jul 2024   📍 Lisbon, Portugal

- Part of a team of 6 students integrated within SocRob@Home (total of 13). Each member of my team worked towards the final project of their bachelor's degree.
- The overarching objective of the research project is to study robot-human interactions and evaluate the work conducted at RoboCup 2024, the world's largest robotics and artificial intelligence competition. This year the team achieved 3rd place in the competition.
- Involved in transitioning from a 2D sensor to a 3D sensor-based navigation system, with a primary focus on 3D mapping. Responsible for testing SLAM algorithms such as A-LOAM, LIO-SAM and FAST-LIO, both in simulation and on the real robot.
- Our team of 6 also developed the navigation project's website.

SocRobo@Home's website

EXPERIENCE

AI Engineering Intern
iCapital

📅 Jul 2024 - Aug 2024   📍 Lisbon, Portugal

- Part of a team of 3 interns integrated into the 2024 internship program at iCapital, and working with coworkers from the US . The project is called the Large Language Model-based Multi-Agent System (LLM-MAS).
- The work aims to reduce the time required to create a type of fund report that typically takes 2-3 months to complete manually. Consequently, increase the amount of reports made annually.
- Make use of the Autogen Python library for multi-agent chatting to generate text, plots, and tables.
- Make use of OpeanAI, BGE embeddings and similarity search (cosine similarity) for fact checking upon generated text from agents.
- Focus on a specific section of the report, and the output is a Word document containing the written section (with language similar to that of official reports) alongside generated plots and tables that are referenced. The team responsible for these reports can then review and edit the output as needed.

EDUCATION

Erasmus - MSc degree in Electrical and Computer Engineering
FH Technikum Wien

📅 Feb 2025 - Present   📍 Vienna, Austria

MSc degree in Electrical and Computer Engineering
Instituto Superior Técnico

📅 Sep 2021 - Present   📍 Lisbon, Portugal

- Natural Language Processing: 17/20.
- Deep Learning: 16/20.
- Machine Learning: 16/20.

Grade: 16/20.

BSc degree in Electrical and Computer Engineering
Instituto Superior Técnico

📅 Sep 2021 - Jul 2024   📍 Lisbon, Portugal

Relevant subjects:
- Autonomous Systems: 19/20.
- Modeling and Simulation: 19/20.
- Control: 18/20.
- Probabilities and Statistics: 18/20.

Grade: 16/20.

EXPERTISE

- 5000+ lines of Python.
- 3000+ lines of C.
- 500+ lines of MATLAB.
- 500+ lines of R.
- 300+ lines of RISC-V.
- 200+ lines of Java.
- Experienced with Git, GitHub and GitLab.
- Familiar with Docker (used it for the SocRob@Home project).
- 3+ years of experience working with ROS.
- Windows OS, Linux Ubuntu OS and macOS.

LANGUAGES

Portuguese	Native
English	C1
German	A1

EXPERIENCE (CONTINUED)

Team Leader of the Speakers team

Journeys of Electrical and Computer Engineering (JEEC|25)

📅 Mar 2024 - May 2025   📍 Lisbon, Portugal

- Lead a team of 7 members responsible for searching and securing speakers for the JEEC event, ensuring alignment with the event's theme and objectives.
- Manage and coordinate team activities, including setting deadlines, identifying potential speakers, and defining topics for speaker sessions.
- Collaborate with event coordinators and other team leaders on key aspects such as inter-team activities, marketing strategies, budget management for speaker engagements, and establishing critical timelines for event planning.

Member of the Speakers team

Journeys of Electrical and Computer Engineering (JEEC|24)

📅 Mar 2023 - Mar 2024   📍 Lisbon, Portugal

- Research interesting speakers to deliver a talk or be a part of board discussions on specific topics at JEEC.
- Within the team, discuss individuals to reach out to and invite, as well as the event itinerary and innovative ideas for it.
- Contacting speakers involves sending them emails/messages and/or having meetings with them, followed by organising their travel arrangements for the event (ensuring their well-being while at the event).

VOLUNTEERING

Registration team member

Web summit

📅 Nov 2023   📍 Lisbon, Portugal

- As a registration team member welcomed and interacted with professionals from various companies, connecting faces to names, and engaged in insightful conversations about the latest industry trends.
- Attended inspiring talks across the event, gaining valuable insights from thought leaders shaping the future of technology and business.
- Explored the startup ecosystem, delving into the newest technologies and innovations.

Volunteer

Journeys of Electrical and Computer Engineering (JEEC|22 & JEEC|23)

📅 Mar 2022 & Mar 2023   📍 Lisbon, Portugal

- Volunteered for 2 consecutive years. First encounter with the job market related to my field of study. During the event: assist the team with logistics tasks, and ensure the well-being of the company representatives.
- Network with the attending companies, which allowed me to expand my contact network and deepen my knowledge of the market.

Student's Mentor

NAPE

📅 Sep 2022 - Jul 2024   📍 Lisbon, Portugal

- Welcome a group of 6 freshmen on their first day of university.
- Provide a tour of the university and share my experience as a student at IST.

HONORS AND AWARDS

- Axians Scholarship 2024/2025 recipient.
- Academic merit 2022/2023 and 2023/2024 in Electrical and Computer Engineering.

HOBBIES AND CURIOSITIES

- Play sports (mainly football).
- Rubik's cube.
- Skate.
- I have a particular taste for Norse mythology. I enjoy learning and reading about it.
- Play video games.
- Watch shows or movies.