GUILHERME VIEGAS

Electrical and Computer Engineer

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Solution-driven and passionate for a technological agnostic approach to solving problems.

In both my academic studies and professional experience, I consistently demonstrated resilience and autonomy when tackling complex tasks. Nevertheless, I firmly believe in the power of collaboration: **teamwork is the dream work**. I am eager to be part of a talented team of engineers pushing the boundaries of science and technology and driving innovation forward.

WORK EXPERIENCE

Performance Consultant

Crossjoin Solutions | November 2022 - Ongoing

Working with a Telco Company to improve every business transaction, from a performance and stability point of view.

- Played a key role in optimizing **system performance** from an E2E perspective. Improved service availability and MTTR (Mean Time to Resolve) of performance issues.
- Collaborated with cross-functional teams on P1 incidents resolution, **reducing client's downtime**.
- Real-time application monitoring through both the ELK stack and APM tools (e.g., AppDynamics).
- Other tools required included query tuning, Oracle Database auditing and GAWK Scripting language for log file analysis.

Software Developer

GMV| Summer Internship | June 2021

- Developed a debugger tool for the proprietary Real Time Operating System named AIR, enhancing the team's productivity in their daily workflow. Used Python and the QT framework. Gave me a high-level knowledge of the software used in space missions, while working with a collaborative team environment.

Software Developer

SAP| Summer Internship | June - August 2019

- Built an E-Commerce platform with SAP Hybris tool based on Java programming, for storing and displaying the SAP workers curriculum status and taking courses.

HARD SKILLS

Programming

- Python (5+ y.)
- C (3+ y.)
- ROS/Gazebo (2+ y.)
- GAWK (2+ y.)
- PL/SQL Oracle (2+ y.)
- MATLAB

Software

- Logs & ELK
- APMs (AppDynamics/Dynatrace)
- GIT
- Machine Learning Frameworks (PyTorch, Keras, Scikit-Learn)

Hardware

- Arduino, ESP32
- RasberryPi
- Sensors & Actuators

Languages

- Portuguese (Native)
- English (Professional Use)

EDUCATION

MSc, Bsc Electrical and Computer Engineering

Instituto Superior Técnico, Lisbon| September 2017 - August 2022

Master Thesis: A collision-free sampling-based path planner for unknown shaped objects in unknown environments

- A Guidance algorithm for multi-agent systems using Rapidly-Exploring Random Tree (RRT) variants. It considered system and map uncertainties, achieving optimal trajectory computation for cooperative agents. Demonstrated in a ROS/Gazebo environment.
- https://scholar.tecnico.ulisboa.pt/records/F5pwDYznUpzmYsJLsObLz3YZcc_jCXxFyu3I

Major: Systems, Decision and Control and a minor on Space Sciences and Technologies.

Relevant Coursework: Artificial Intelligence, Autonomous Systems (SLAM & GNC), Robotics.

GPA: 16.1 /20.0

- 1x Academic **Excellence** Certificate - University of Lisbon
- 2x Academic **Merit** Certificate - University of Lisbon

PERSONAL PROJECTS

FreeFlyer Motion Control

Instituto Superior Técnico | 2021

- **Robotics & Control** | Python + ROS/Gazebo , RaspberryPi
- Motion controller for a 3 DoF free-flyer robot using visual markers and a PD controller.
- Robot's dynamic model analysis, used to compute the actuation signals needed for the robot's movement.

Machine Learning Labs

Instituto Superior Técnico | 2020

- **Machine Learning** | Linear regression, Regularization, Neural Networks, SVMs, Decision Trees.
  - **Convolutional Neural Network (CNN)** | Clothing classification project
  - **MPU Sensor + CNN**| Automatic Sign Language Translation

Member at HackerSchool

Instituto Superior Técnico | 2019

- **3D Printing + ESP32 Microcontroller** | Robotic arm for educational purposes
- https://hackerschool.tecnico.ulisboa.pt/

Android Application

Personal, Lisbon| 2019

- **App Development and Deployment** | Flutter application that lets users search for recipes with the ingredients they have available at home.
- **Spoonacular's API** | Recipe generation
- **Firebase platform** | Database storage, notification messaging and analytics

CityHack Hackathon

Calouste Gulbenkian Foundation, Politécnico de Tomar | 2019

- **1st Place** | Built a prototype device designed to be plugged between any energy socket and a device (e.g., TV). With **Arduino and ESP32 microcontrollers**, it allowed users to

have **real-time knowledge of their energy consumption**.