Guilherme **Viegas**

About Me

Born in Faro, Portugal, since childhood I realized that when I grew up I wanted to have a dynamic life and not just a simple office job. I have always been an active person, practicing various sports such as judo and surfing, and participating in various school projects. I ended up choosing to enter the world of science and technology, combining an area that I love with the development of other skills, such as soft skills.

Education

2017-Now Integrated MSc in Electrical and Computer Engineering   IST

I entered Instituto Superior Técnico to take the electrical and computer engineering integrated master's. I'm currently ending the fifth and final course year, with the major being on "Systems, Decision and Control" and a minor on "Space Sciences and Technologies". While my primary field of study is the motion control of Autonomous Systems, I have always been interested in the field of Guidance, Navigation and Control of dynamic systems applied to space robotics.

Experience

2021 – GMV Summer Internship   Lisbon

Took a 2-month Summer Internship at GMV, developing the Graphical User Interface of a debugger for their Real Time Operating Systems called AIR. This enabled me not only to further enhance my knowledge of python programming, specifically using frameworks such as QT, but also to have a high-level knowledge of the software used in space missions and satellites, while working integrated in a team where mutual help was imperative.

2019 – SAP Summer Internship   Lisbon

Took a Summer Internship at SAP building a simplistic E-Commerce platform built with SAP Hybris tool based on Java programming, for storing and displaying the SAP workers curriculum status and taken courses.

2019 – 1ºsPlace at CityHack Competition   Tomar

Won 1s place at the CityHack competition powered by Politecnico de Tomar and Fundação Calouste Gulbenkian. We prototyped a device that was plugged between any energy socket and a device like a TV. It allowed to send information of the current and realize the energy spent in that socket. The data was housed on a server, for further display to the user. Being on a team, I worked more on the electronics part and producing a proof-of-concept.

2018 WebSummit Volunteer   WebSummit

Worked as operations desk assistant at WebSummit 2018, improving my English and social skills, due to the specifics of my work which was at the information's point. It also gave me a big picture of how big operations and events work.

03/2018 - HackerSchool   IST

Having a self-taught personality, I entered Hackerschool, a big IST student group that strives not only for making and creating projects with electronics and software programming but also creates lots of events and workshops for the student community.

2008 - 2018 Judo

Judo, a martial arts sport, had a big part in my life. While in Highschool, I competed a lot, being my biggest achievements the two first places in 2014 and 2015 and a third place in 2016 at the nationals. Not only the sport itself but also the great frequency of training I had gave me one of my best skills, organization and time management.

Extracurricular Projects / Own Initiative

Cook my Leftovers - AppDev

Flutter App that lets users search for recipes with the ingredients they have around using Spoonacular's API

FreeFlyer Motion Control – Robotics/Control

Developed a pose estimator for a free-flyer like robot using AR markers and a PD controller to maintain the free-flyer at a specified pose.

Current Thesis work – Motion Control/Space Robotics

My Master thesis focuses on the path planning of a fleet of free-flyers (Astrobees in the International Space Station more specifically), when one of the robots has its sensors occluded due to the transportation of an unknown shaped payload. Two occupancy grid maps are built (one for the environment and another for the unknown payload + robot system) and a variation of an RRT* algorithm is used for the path planning, integrating the occupancy grid maps to check for possible collisions.