

# JESÚS FERRÁNDIZ ALARCÓN

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☎ +34 605 38 22 76

✉ jeferrandiz98@gmail.com

🌐 linkedin.com/in/jesus-ferrandiz

📍 London, United Kingdom

## ABOUT ME

I am a **robotics** passionate always keen to further my knowledge. I am really interested in **Computer Vision** and **Artificial Intelligence** and I am experienced in both **manipulation** and **mobile robotics** due to my previous work with a collaborative rehabilitation robot, a lunar rover and a dexterous hand+arm. I count with **more than 2.5 years** of experience in:

- C++
- Python
- ROS/ROS2
- Ubuntu
- Controls and Motion Planning

## SOFT SKILLS

- Team player
- Self-learning spirit
- Strong time management
- Brainstorming and creative thinking
- Highly motivated
- Scientific and analytical mind
- Agile methodology
- Jira, Scrum

## Work Experience

### • Robotics Software Engineer

*Shadow Robot Company, London* (Feb 2022 - Currently)  
- **Commercial C++ and Python** development for the Shadow Hand and the teleoperation system. Unit tests, manipulation, planning, kinematics, QT GUI's and real time control.  
- Accountable for Software support of Shadow products.  
- Performance optimization, debugging.

### • Robotics Software Intern

*Space Applications Services, Brussels* (Aug 2021 - Feb 2022)  
- Implementing a **SLAM navigation architecture** for a Lunar Rover, including traversability mapping, Lidar/Depth camera PC processing, localization and path planning.

### • Robotics Software Intern

*Instituto Universitario de Automática e Informática Industrial* (Oct 2020 - Jul 2021)

- Implemented a control architecture for **rehabilitation robots** based on **ROS2**, including position and force controllers.  
- Author of **Q1 publication**, implemented controllers based on **Deep Reinforcement Learning** algorithms (TRPO and PPO) and worked with a motion capture system (**Optitrack**).

## Education

### • Master's Degree in Automation and Industrial Computing

*Polytechnic University of Valencia* (Oct 2020- Sept 2021)

- **10/10 on the Final Project** and Special Mention

### • Bachelor's Degree in Industrial Electronics and Automation Engineering

*Polytechnic University of Valencia* (2016-2020)

- **9.8 on the Final Project** which was based on implementing dynamic controllers for an industrial robot with a Real Time embedded system and an FPGA.  
- **9.1/10 Average grade**, awarded to **best academic records** of third year and achieved **16 Special Mentions**.

## Further Education

- **Self-Driving** Cars Specialization University of Toronto 2023
- Mastering **Data Structures & Algorithms** C, C++ Udemy 2022
- **Deep learning** applied to signal and image analysis UPV 2021
- Intro to **OpenCV** app development UC3M 2020

## Languages

- English - Fluent - FCE B2, Cambridge English 2019
- Spanish - Native

## Tech Skills

- Fluent in C, C++ and Python
- Experienced in Linux, git, github, docker, ROS and ROS2
- Machine Learning: Tensorflow, Keras, Scikit-learn
- CV (2D/3D): Img processing, Segmentation, PCL, CNN
- Experienced with C++ libraries: OpenCV, Eigen, PCL