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Francisco Ramos

Robotics and Automation Engineer

I have worked as a research intern at the Higher Technical School of Engineering (ETSI) in Seville at the prestigious Systems Engineering and Automation Department. I have also worked as a research intern at the Advanced Centre for Aerospace Technologies (CATEC) in Seville. I consider myself a self-taught person with a great capacity for learning. I am interested in Robotics, Control and Automation Systems, Electronics, Machine Learning, Connected Industry and Internet of Things.

SKILLS

Tools and Languages	C, C++, Python (Tensorflow, Pytorch, OpenCV, Pandas, Pyspark), R (GGPlot2), SQL, ROS, Matlab, Bash/Shell, Git, Docker, Web design
Quantitative Research Communication	Control Systems, Robotics, Power Electronics, Embedded Systems, Computer Vision and AI English (TOEFL iBT: 102 & Advanced CAE - C1), French (A2), Spanish (Native)

TECHNICAL EXPERIENCE

Robotics & Machine Learning Engineer	FEB 2022 — AUG 2022
<i>Advanced Center for Aerospace Technologies - CATEC</i>	<i>Seville, Spain</i>
<ul style="list-style-type: none">• Crop monitoring using photogrammetry obtained by HAPS (High Altitude Platform Station).• Implementation of detect and avoid algorithms in unmanned aerial vehicles using Object Detection.• Study and implementation of state-of-the-art object detection models with transformers, benchmark in embedded systems.• Benchmark on real-time long-range aircraft detection for safe RPAS operations. DOI: 10.1007/978-3-031-21062-4_28	
Research intern / Application of ML and DL techniques for the optimization of an EV charging station	SEP 2021 — JUL 2022
<i>Systems Engineering and Automation Department US</i>	<i>Seville, Spain</i>
<ul style="list-style-type: none">• Study, modeling, and implementation of a unified system simulator of an EV charging station with renewable support.• Management optimization using time-series deep learning models to forecast charging load and energy production.• Optimized Operation of an Electric Vehicle Charging Station with Photovoltaic Support and Vehicle-to-Grid Implementation. DOI: 10.1007/978-3-031-10047-5_62	
Engineer / Electric Powertrain & Electronic systems department.	SEP 2019 — AUG 2021
<i>US Racing</i>	<i>Seville, Spain</i>
<ul style="list-style-type: none">• High and low voltage electrical system of the electric motorbike.• Design of Battery Management System (BMS), inverter, motor, charger and telemetry.	

EDUCATION

MEng in Mechanical Engineering, Control of Robotics and Autonomous Systems, University of California Berkeley	2023 — 2024
MSc in Industrial Engineering, Control and Automation concentration, Universidad Politécnica de Madrid, UPM	2022 — 2023
- Project manager: Autonomous Unmanned Aerial Vehicle System: Drone for Autonomous Drone Racing Competition (12 students)	
BSc in Industrial Engineering, Control and Automation concentration, Universidad de Sevilla, ETSI	2018 — 2022
- Top 1%, Cumulative GPA: 3.777, Major field GPA: 3.836, 13 honors (with distinction)	
- Final degree project: "Charge demand and renewable generation forecasting with Deep Learning: application to electric vehicle station optimization." (Awarded with Honours)	
- Other projects: Pan & Tilt servo system autonomously controlled using Facial, Hand and Color Detection	
Additional Training Courses :	
- TensorFlow Developer Specialization - Professional Certificate (4 courses), <i>DeepLearning.AI</i>	2022
- Introduction to the Internet of Things and Embedded Systems, <i>University of California, Irvine</i>	2020
- Deep Learning Specialization by Andrew NG (5 courses), <i>DeepLearning.AI</i>	2019-2021
Internship, Rockbrook International - Dublin, Ireland	2012

ACTIVITIES AND ACHIEVEMENTS

Prize for the Best Final Degree Project awarded by the Endesa Chair - XVIII Edition	2023
Player of the UPM School of Industrial Engineering soccer team	2022
Team manager in catering, Ulivo, <i>Seville</i>	2021 — 2022
Captain of the University football team of the School of Engineering of Seville	2018 — 2022
Collaboration grant from the ministry of education	2021
Volunteer, solidarity evenings and visiting disabled people.	2018 — 2022
Member of the teaching staff. Confirmation Catechist. <i>Claret Seville School</i>	2020 — 2021
Excellence Grants in Colegio Mayor Guadaira	2018
Football player (Captain) 1st provincial division <i>Cádiz</i>	2017 — 2018
Elemental Music Grade Instrument: Violin. <i>Music Conservatory Rafael Taboada. Cádiz</i>	2010