

EXPERIENCE

Ph.D Student. Aarhus University, 06/2020 - now

Marie Curie Scholarship at the ETN project ReMaRo

Development of an SLAM algorithm for underwater vehicles using camerabased deep learning algorithms to aid navigation.

Research Technician. University Carlos III Madrid, 10/2015 - 03/2020

Teacher Assistant

Teacher Assistant at the RoboticsLab in the Systems Engineering and Automation department.

Researcher in the EU Project INDIREs (Information Driven Incident Response). Software development for hexapod robot navigation.

Researcher in the EU Project STAMS (Long Term Stability Assessment and Monitoring of Flooded Shafts).

Development of software tools for real-time control and data acquisition of the flooded mine shaft inspection devices. Deliverable writing, field tests conducting.

Research Fellow. Arcelor-Mittal, 2013,2014/08-10

Scholar at R&D Arcelor-Mittal center in Avilés.

Research in the automatic detection of defects and dust in the rolled steel with computer vision techniques.

Scholar. Duro Felguera (Argentina), 2014/08

Scholarship at Energy division in Duro Felguera.

Commissioning in the production of a combined cycle power plant in Timbúes.

EDUCATION

CCSS Summer School. Senigallia, Italy, 07/2019

Summer School on Computing in Construction.

Lectures on intelligent construction inspection and assessment.

EEML Summer School. Bucharest, Romania, 07/2019

Summer School on Deep Learning and Reinforcement Learning.

Practical Sessions and Lectures in Deep Learning and Reinforcement Learning for Computer Vision and Speech Recognition, among other applications. Lectures given by the main experts from Google, DeepMind, Facebook and other leading companies in the field.

M.Sc. in Robotics and Automation. University Carlos III Madrid, 2019

Average Score: 9.12/10

Master Thesis: "Visual Localization of an Underwater Robot in Flooded Mine Shafts". Development of algorithms for low-cost underwater robot localization, image enhancement, and Visual Odometry algorithms with OpenCV python API.

Electronics and Automation Engineer. University of Oviedo, 2015

With a robotics specialization. Average Score: 7.85/10

Bachelor Thesis: "Visual Odometry for quadcopters". Development of Visual Odometry algorithms with C++ and OpenCV in an AR Drone 2.0.

COURSES

Deep Learning Specialization. Coursera, 02-05/2020

Neural Networks and Deep Learning: Foundations of Deep Learning, building and implementation of deep neural networks. Credential ID: NA9Z4ZSMXTLF

Structuring Machine Learning Projects: error diagnose and direction prioritization in the development of machine learning systems. Credential ID: HS4LX3MCJZN3

Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization. Credential ID: 6XBDRV6YFMEG

Convolutional Neural Networks: building of Convolutional Neural Networks for Computer Vision. Credential ID: 24JZU7HRUMQC

ENTREPRENEURSHIP

EU-XCEL Virtual accelerator. University of Athens, 2015

Selected to attend among participants from the European Union. Development of a Startup Project with an European Team.

Predictive Farming project for vineyards: Matlab implementation of machine learning algorithms for an optimal use of irrigation in vineyards.

TEACHING ACTIVITIES

Teaching assistant. University Carlos III Madrid, 2020-now

- . Industrial Automation
- . Automation of an assembly plant using Siemens PLCs, Festo tools and TIA Portal. Design of the digital twin of the plant using Siemens NX.
- . Industrial Robotics
- . Programming and Simulation of ABB Industrial Robots using RAPID and RobotStudio.

Bachelor Thesis Mentoring. University Carlos III Madrid, 2016-now

- . Ana Laura Bermejo Escudero."Planificación de trayectorias para vehículos submarinos en ROS" (Path planning for underwater vehicles in ROS), 2017.
- . Isaac Sánchez Rodríguez."Modelado de robot submarino en el simulador UWSim" (Underwater robot modelling in the UWSim simulator), 2017.
- . Emilio Hernández Rubio."Buoyager: Diseño electrónico de una boya low-cost para el sensado de la calidad de agua en puertos" (Buoyager: electronic design of a low-cost buoy for quality water sensing), 2021.
- . Álvaro Caño Gómez."Diseño e Investigación de robots blandos para la manipulación de residuos" (Research and Design of Soft Robots for waste handling), 2021.

FIELDS

Software *****
Development
Computer Vision *****
Project *****
Development

LANGUAGES

Spanish *****
English *****
German **

TOOLS

OpenCV
ROS
Gazebo
Terminal
LaTeX
Ardupilot
Inkscape
Blender
PCL
Raspberry Pi
Arduino
Sphinx