Departament de Tecnologies de la Informació i les Comunicacions EXCELENCIA MARÍA DE MAEZTU

# Maria de Maeztu PhD position

Title: PhD scholarship in Multi-agent constrained reinforcement learning

#### Abstract:

This project addresses the critical technical challenges involved in transitioning from single-agent and unconstrained learning to multi-agent and constrained learning. In a natural manner, due to the autonomy component, this learning process will take the form of reinforcement learning.

### Open position for a predoctoral researcher:

This position includes a teaching commitment load of 45 hours per academic year.

### Topic:

The successful candidate will be involved in research related to connected autonomy. More specifically, the research project will consist of the development of new reinforcement learning algorithms designed to work in multi-agent scenarios and under operational requirements. Potential experimental validations of the developed algorithms are also considered.

#### Requirements:

Ideal candidates should hold a M.Sc. degree in Electrical Engineering, Computer Science or any related discipline. Be fluent in English and possess a solid academic record with strong mathematical and problem-solving abilities. Experience in Python with machine learning libraries (PyTorch) and/or robotic libraries (ROS) is highly valued.

Admission in the PhD program of the Department of Information and Communication Technologies at UPF is a prerequisite to enjoy the contract.

Starting date (planned): October 2023

**Application deadline:** 31 May 2023

#### Gross yearly salary:

Gross monthly salary: 1,680€. (To increase to 2,020€ during the fourth year of the PhD.)

This position is co-funded by the PhD fellowship program of the Department of Information and Communication Technologies at Universitat Pompeu Fabra (DTIC-UPF), and the María de Maeztu Strategic Research Programme at DTIC-UPF on Artificial and Natural Intelligence



Departament de Tecnologies de la Informació i les Comunicacions



for ICT and beyond. Its benefits and conditions are available at: https://www.upf.edu/web/etic/predoctoral-research-contracts.

## For application or further information, contact

Miguel Calvo-Fullana, WiSeCom (miguel.calvo@upf.edu)

Anders Jonsson, Al-ML (anders.jonsson@upf.edu)

More information about the María de Maeztu Strategic Research Programme at DTIC-UPF on Artificial and Natural Intelligence for ICT and beyond: <a href="https://www.upf.edu/web/mdm-dtic.">https://www.upf.edu/web/mdm-dtic.</a>





This program has received funding from the Spanish State Research Agency under the Maria de Maeztu Units of Excellence Programme (CEX2021-001195-M).