

Maria de Maeztu PhD position

Title: PhD scholarship in *Fusion of heterogeneous information for clinical decision making*.

Abstract:

Most research in the application of Machine Learning in Clinical Medicine starts from a large dataset of (heterogeneous) measurements, as well as a targeted outcome (diagnosis, disease progression, therapy response,...) and attempts to learn a complex model from the training dataset that can be used to predict outcome in new individuals presented to the model. However, while this approach works very well in many daily applications, Clinical Medicine has proven to be much more complex and very few singular models are able to perform the task in real clinical practice. This is mainly because, despite a general learned relation input-outcome, different individuals link input and outcome by very different disease processes.

In this project, instead of learning a monolithic model, we will try to develop methods to first identify different groups of individuals with similar clinical phenotypes, and for these try to find the best approach for linking (part of) their input data to possible (and different) outcomes.

Concretely, we will investigate this approach in different clinical scenarios, such as neonatal screening for early death and complications in low and middle income countries; the social impact of early intervention in babies born with congenital deformities; the development of cardiac disease in a general population;...

Open position for a Doctoral researcher:

Topic: Fusion of heterogeneous information for clinical decision making.

Requirements:

MSc in Biomedical Engineering; Data Science; Artificial Intelligence or equivalent

Start date (planned): Academic year 2023-24 (starts October 1st 2023).

Application deadline: Continuously open until a suitable candidate is found.

For application or further information, contact

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

- More information about the DTIC-UPF PhD fellowship program
<https://www.upf.edu/web/etic/predoctoral-research-contracts>
- More information about the María de Maeztu Strategic Research Program at DTIC-UPF on Artificial and Natural Intelligence for ICT and beyond:
<https://www.upf.edu/web/mdm-dtic>

**EXCELENCIA
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