PHD CANDIDATE: ARTIFICIAL INTELIGENCE APPLIED TO BIOMARKER DISCOVERY IN MULTI-OMICS

Company Description

FACULTY OF ENGINEERING
Mondragon Unibertsitatea is a practical, innovative and committed University, focused on the development of people, oriented towards the needs of business and society, designed to meet the challenges of the real world and where knowledge and its application have no borders.

Information

Deadline: 2023-07-31
Category: Academia
Province: Gipuzkoa
Country: Basque Country
City: Arrasate

Company

Mondragon Unibertsitatea

Main functions, requisites & benefits

Main functions

The Signal Theory and Communication research group at the Faculty of Engineering of Mondragon Unibertsitatea (MU-EPS) is looking for qualified applicants for a PhD position in Biomedical Data Analysis. Currently, artificial intelligence methodologies are helping to discover new and potential biomarkers based on multi-omics. Moreover, biomarkers are playing a key role in the prediction of pathologies appearance and frequency, in understanding pharmacological treatment accuracies or resistance and in the evolution of the Health 4.0. Artificial intelligence and multi-omics are the base of the personalized medicine. The group in collaboration with the CIC bioGUNE research institute and several members of the BRTA is building a data platform to exploit and advance in personalized medicine algorithms. The platform is prepared to integrate lifestyle data, individual physical and medical condition data together with omics data coming from genomics, proteomics and metabolomics from 10000 healthy participants over a 5 year period. In medical applications, unsupervised and supervised learning techniques allow to process large amount of data to discover patterns associated with medical conditions, treatment success prediction or illness prevalence estimation. Large population studies serve to identify wide similarity groups (light phenotyping) and reduced similarity groups (deep phenotyping). We are looking for students who are willing to conduct research on the impact of applying advanced artificial intelligence methods to exploit multi-omics data for population phenotyping.

Requisites

Researcher Profile: First Stage Researcher (R1). Research Field: Bioinformatics, biomedical engineering, artificial intelligence. Education level: Applicants will hold a Master Degree in Biomedical Engineering, Telecommunications, Mathematics or Computer Science, or equivalent. Other skills and experience (essential or desirable): Experience in developing in Python, Matlab or R. Understanding of omics data and biological processes.

Benefits

To be part of a transforming and attractive educational project, in which you can develop your vocation and grow professionally and personally, in a respectful working environment, based on trust and cooperation.