

PhD fellowship
Machine learning in large heterogeneous genomic data

We are looking for a student with a strong computational profile and an interest in biological applications to apply for a PhD fellowship in the prestigious **InPhinit** program:

<https://obrasociallacaixa.org/en/educacion-becas/becas-de-posgrado/inphinit>

This initiative comprises a series a three-year fellowships that include mobility and training plans. For more details and informal contacts, send an e-mail to both Miguel Pérez (miguel.perez@uab.es) and Lluís Belanche (belanche@cs.upc.edu), but please note that all applications must be done through the website below. The thesis will be carried at the Centre for Research in Agricultural Genomics (www.cragenomica.es), Barcelona, Spain.

Project description

Big data are characterized not only by their size but also by their heterogeneity and noisiness. These features apply in particular to genomic data: their size has been increasing exponentially with the advent of new sequencing technologies, but also their complexity. Application of machine learning to genomic problems is a most promising area of research. This thesis is concerned with the application of machine learning techniques to several relevant issues in agricultural genomics, such as the prediction of phenotypes for genetic improvement in plants and animals. We aim at combining several available sources of information: phenotypes and sequence data, but also annotation features, metabolic pathways, transcriptome and epigenome. In this setting, the so called 'ensemble methods' seem the most appropriate since they are designed to combine predictors arising from different sources in an optimal way. An important goal is not only to provide efficient predictors but also tools to biologically interpret the results. The thesis will be co-supervised by Miguel Pérez-Enciso (<https://www.icrea.cat/Web/ScientificStaff/Miguel-Perez-Enciso-255>) (ICREA researcher, CRAG) and Lluís A. Belanche (<https://www.cs.upc.edu/~belanche/>), lecturer and researcher in Machine Learning (UPC).

Application deadline:

2 February 2017

Eligibility criteria:

<https://obrasociallacaixa.org/en/educacion-becas/becas-de-posgrado/inphinit/call-for-application>

How to apply:

<https://hosts.lacaixafellowships.org/finder>

Look for our proposal typing 'machine learning' in the text search and follow the links.

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