The Data Science Institute (DSI) of Hasselt University announces a position for a (m/f)

Postdoctoral Researcher in Statistics (4 years):

"The Probability of Improved Prediction: a new concept in statistical inference"

This project is funded for four years by the Research Foundation - Flanders (FWO).

Project description

In many empirical sciences there is a consensus that the Scientific Method can rely on statistical hypothesis testing, and that the p-value can be compared to a threshold of 5% to come to a binary decision: either reject the null hypothesis (a "positive" result) or accept the null hypothesis (inconclusive). The former leads easier to publication, whereas many journals are hesitant publishing negative results. This tradition leads to publication bias. Moreover, sometimes researchers do significance-fishing, which results in an increase of the false positive rate and in irreproducible results. Many scientists and statistician are criticising this use of p-values nowadays.

We propose an alternative summary of experimental data that may overcome some of the issues related to p-values. We believe that our statistic is relevant to the Scientific Method, because it has an interpretation in terms of predicability of a model. In this sense, it may help to connect statistical science with predictive modelling or machine learning. We propose the Probability of Improved Prediction (PIP), which measures how more often a model gives better predictions than another model (the two models may differ in e.g. a single predictor). We will study the basic properties of the PIP and its relation to the p-value for several traditional statistical models. We will also propose and study several estimators of the PIP, and study its use in model selection procedures for prediction models.

Profile and diploma

We are looking for motivated candidates with a Ph.D. degree in statistics or a similar discipline. As a postdoctoral researcher you will join the dynamic research team in DSI and will collaborate with scientists from both academia and industry. A successful candidate should have

- A Ph.D. degree in statistics, mathematics, data science or equivalent.
- You have a good and broad knowledge of statistical methodologies and have good mathematical skills.
- Ability to carry out research at a high level, as demonstrated by published work.
- You can work independently and within a team.
- You have excellent communication skills.
- You enjoy working in a multidisciplinary and multicultural environment.
- You fluently speak and write English.

Offer

The appointment should start in 2021, for a period of 4 years.

Further information

Prof. Olivier Thas (Olivier.Thas@UHasselt.be).

Application

Send your application to Olivier.Thas@UHasselt.be. The application should include your CV, a letter of motivation and the names and contact details of the referents.

The selection procedure consists of a preselection based on the application file and an interview.

The procedure will stop when the position is filled.