PhD researcher in statistical modeling of educational data - KU Leuven (University of Leuven) & imec

Itec, an imec research group at KU Leuven, is looking for a PhD candidate who will carry out research on learning analytics or on meta-analytic techniques.

Organizational unit

Itec is a research group of KU Leuven and imec, Flanders' high-tech research and innovation hub for nanoelectronics and digital technologies. The interdisciplinary research concerns the design, development, and evaluation of personalized and adaptive digital solutions, with applications mostly in the domain of technology-enhanced education and training, but also in media and in health. Main research themes include: instructional design and effectiveness of technology-enhanced complex learning (e.g. collaborative problem-solving) based on theory and learning analytics data; the development of data-driven methods for effectiveness research (e.g. multilevel models for meta-analysis) and for personalization (e.g. psychometric and machine learning techniques as well as language technology for intelligent tutoring systems). In order to realize this, itec brings together researchers trained in learning sciences, statistics, computer science, and applied linguistics, in a cooperative research lab on the Kulak campus in Kortrijk. The research group often collaborates with industry and societal partners.

Website of the unit

Project

As a doctoral researcher, you will carry out methodological research in one of the following research lines:

- Learning analytics: Online learning environments often generate a large amount of log data, that can be supplemented by other data sources (such as video, eye tracking, and physiological data). The candidate will further develop, apply and evaluate statistical techniques and models (such as dynamic IRT models) that can be used to analyze these data sets or to track changing variables on-the-fly in order to optimize and personalize the environment.
- Meta-analysis: A meta-analysis combines the results of multiple studies in order to increase the accuracy of parameter estimates or the power of statistical tests, or to study moderating effects. The candidate will further study and propose multilevel extensions or improvements of models and techniques for the meta-analysis of group-comparison or single-case experimental studies.

The PhD candidate is expected to complete a PhD-study within a period of 4 years within one of the above-mentioned research lines. The core of the PhD activities will consist of setting up, executing and reporting on several studies that fit in the overall project. In addition, the PhD candidate will be asked to do a limited amount of educational services.

Profile

We are looking for a candidate who

- has a Master's degree (e.g., in Educational Sciences, Psychology, or Statistics);

- has a special interest in the use and further development of statistical modeling of educational data;
- has distinguished her/himself during the study career;
- is creative and result-oriented;
- is a loyal team player, who can work autonomously and deliver solid scientific work; and
- has strong communication skills in English (oral and written). Proficiency in Dutch is considered an asset.

We kindly ask the candidates to include a short motivation letter in addition to their more detailed CV in which they explain their interest in this vacancy and, if applicable, their preference for one of both research lines.

Offer

The study will lead to a PhD degree in Educational Sciences from the KU Leuven.

As a PhD student, you will have every opportunity to develop yourself further in your professional career, by studying literature, attending seminars and workshops, participating in international conferences and interacting with leading researchers from multiple disciplines.

The position offers flexibility and the opportunity to work in an enthusiastic team in a stimulating multicultural environment. In addition, you will become part of (and contribute to) a network of academic and non-academic partners in the flourishing market of educational technology. Your research will contribute to fast developments in education that have a high societal impact.

We offer a full-time appointment (initially for 1 year, but conditionally on a positive evaluation extended to 4 years). Your workplace is primarily located at the KU Leuven campus Kulak in Kortrijk.

In addition to a competitive salary, KU Leuven offers a number of additional advantages, such as the possibility of flexible working, hospitalization insurance, eco-vouchers, reimbursement for commuting by public transport, inexpensive meals, a KU Leuven bicycle, etc.

The candidate can start from September 2021 onwards.

Deadline for application

The deadline for application is June 27th, interviews are planned on July 1 and July 2.