PhD researcher in instructional psychology and technology

The research group ITEC of imec at the KU Leuven, campus Kulak in Kortrijk, is looking for a PhD-student in instructional psychology and technology

Deadline for application: 30th of June 2020

INTRODUCTION

ITEC is an interdisciplinary research group of KU Leuven and imec, Flanders' high-tech research and innovation center for nanoelectronics and digital technologies. On the Kortrijk campus of KU Leuven, ITEC brings together researchers from three different faculties (Psychology & Educational Sciences, Letters and Medicine) and five disciplines (educational psychology, statistics, applied linguistics, data science and computer science) to work together on research themes in educational technology, such as instructional design and the effectiveness of online learning environments (e.g. e-learning, serious games), statistical modelling, adaptive learning algorithms and natural language processing. ITEC is looking for a PhD researcher in instructional psychology and technology for a project on the effectiveness of adaptive and non-adaptive games for early numeracy and early literacy.

PROJECT AND RESPONSIBILITIES

The project aims to evaluate the effectiveness of adaptive educational interventions in the context of early numeracy and early literacy through a multimodal approach. More particularly, in a first phase, different studies will be conducted gradually moving from a labo context to a class context. In these studies the focus will be on the validation of physiological measures such as heart rate, skin conductance and skin temperature collected via wrist-worn wearables during gameplay as indicators of non-cognitive factors. The relationship between self-reports and physiological data will systematically be investigated while manipulating specific parameters in the learning environment (e.g., difficulty level of task). Furthermore, in a second phase, a large-scale intervention in several classes will be conducted in view of unraveling the impact of propensity factors (e.g., prior cognitive knowledge and non-cognitive factors such as anxiety) and antecedent factors (e.g., gender, SES, home language, home numeracy and home literacy) on the effectiveness of adaptive games. The data will be collected in view of understanding the association between multiple modes of data (i.e., physiological data, self-reports and behavioral data) as well as to understand how we can foster early mathematics and reading skills in young children.

You will be responsible for designing and conducting the research and analyzing the results, with a high focus on quantitative data analysis. You will carry out your research within the interdisciplinary research team ITEC at campus Kulak in Kortrijk, and collaborate with imec (in view of the analysis of physiological data) and technology companies (in view of adaptive and non-adaptive educational games). Your research is fundamental in nature with a strong emphasis on theory building. You will publish in scientific journals and present the results of your research at international conferences. You write a PhD dissertation on this topic. You will be supervised by prof. dr. Fien Depaepe.

PROFILE

- You have a Master's degree in educational sciences, psychology, computer sciences or a related discipline but with an emphasis on educational and behavioral research.
- You have distinguished yourself during your study career.
- You have a special interest in the use of technology and ICT in education and training.
- You are interested in the use of statistical and computer sciences' techniques, as well as in the use of innovative data collection techniques.
- You are creative and result-oriented.
- You are able to work both independently and in an international team.
- You have a very good command of English (oral and written), and preferably also of Dutch.

We kindly ask the candidates to include a short motivation letter in addition to a more detailed CV in which they express their interest in this vacancy.

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 conditional 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 2020 onwards.

After a positive evaluation of your candidacy, the selection procedure will start with an initial interview which will take place on the 6th or 7th of July. Prior to the interview you will be asked to complete a short assignment which you will have to present on the day of the interview.

RESEARCH UNIT

ITEC is a research group of KU Leuven and imec, Flanders' high-tech research and innovation hub for nanoelectronics and digital technologies. At the Kulak campus of KU Leuven, ITEC conducts interdisciplinary research on the design, development, and evaluation of personalized and adaptive digital solutions, with applications mostly in the domain of technology-enhanced educational and training, but also in media and in health. Main research themes include: instructional design and effectiveness of 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 statistical modelling) 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 the 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.

CONTACT

For more information please contact prof. dr. Fien Depaepe (fien.depaepe@kuleuven.be).

Apply here: https://www.kuleuven.be/personeel/jobsite/jobs/55644062