Institut für Bildungsevaluation
Assoziiertes Institut der
Universität Zürich

Wilfriedstrasse 15
CH-8032 Zürich
Telefon +41 43 268 39 60
Telefax +41 43 268 39 67
www.ibe.uzh.ch

Doctoral Student in Modeling Intraindividual Learning Trajectories with Intensive Longitudinal Data

The Institute for Educational Evaluation at the University of Zurich is accepting applications for a Doctoral Student in statistical and/or computational methods for modeling intensive longitudinal educational and/or developmental data. The initial appointment will be for three years. The position primarily involves work in the research project "Modeling Developmental Trajectories with Intensive Longitudinal Data from Large-Scale Formative Assessments" funded by the Swiss National Science Foundation (PI: Prof. Dr. Martin Tomasik).

Your Responsibilities

The successful candidate will collaborate in a team comprising two post-doctoral researchers, a technical research assistant, and another doctoral student. Against the backdrop of intensive longitudinal data from a computer-based tool for formative student assessment (see Tomasik, Berger & Moser, 2019, in *Frontiers of Education*), the successful candidate's work will focus on methods for modelling intraindividual learning trajectories across different subject domains. A significant portion of the working time will be devoted to collaboration in publishing the project's results.

Your Qualification Requirements

Qualified candidates should be self-driven and highly motivated individuals with a strong interest in quantitative methods in the context of educational measurement. They should have a strong statistical and/or computational background, preferably in the context of time-series analysis, structural equation modelling, higher-order graph modelling and/or other related methods capable of separating between-person and within-person variance in order to study interindividual differences in intraindividual change. Knowledge of item response theory, familiarity with machine learning approaches, a background in numerical mathematics, and programming skills (e.g., Python, C/C++, MATLAB, Perl) is a strong advantage. The successful candidate should have obtained a master's degree in mathematics, statistics, computer science or psychology with a quantitative research focus and be interested in developmental and/or educational research. A good command of English and/or German (as the working languages in the project) is mandatory, familiarity with any of the other national languages (i.e., French and Italian) could be helpful.

Our Offer

We offer great working conditions on a unique data set ($N \approx 100.000$) and the opportunity to complete one's doctoral thesis based on journal publications. Data is readily available, allowing you to focus on the analyses and to expedite the dissertation process. This interdisciplinary research project is conducted in collaboration with leaders in the field of machine learning, signal processing theory, computational social science, and data analytics. The University of Zurich provides great opportunities for networking within and beyond the Digital Society Initiative (DSI; see `https://www.dsi.uzh.ch/`) and the candidate will be supported in applying for the DSI Excellence Program which allows students of all faculties to build up, deepen and expand digital competences as well as interdisciplinary thinking and skills in a cross-disciplinary environment. The Institute offers a competitive salary plus a generous social benefits package, five weeks of paid vacation per year, flexible working hours as well as a highly motivated and supportive team of scientific and non-scientific personnel.

Application Procedure

To apply for this position, please submit in one single PDF file (1) a cover letter describing your past training and your future research goals, highlighting why your background and interests are a good match for the position, (2) a one-page curriculum vitae, and (3) relevant certificates including the most recent transcript of records to Prof. Dr. Martin Tomasik (`martin.tomasik@ibe.uzh.ch`). Letters of reference (if available) may be amended to the candidate's application or sent directly to Prof. Dr. Martin Tomasik. Review of applications will begin immediately and continue until the position is filled. Interested applicants are strongly encouraged to submit their applications at their earliest convenience but not later than January 31, 2021. Preferred starting date is March 1, 2021. Confidential inquiries concerning this vacancy may either be directed to Prof. Dr. Martin Tomasik or Dr. Charles Driver (`charles.driver@ibe.uzh.ch`).

About Us

The Institute for Educational Evaluation is a nationally renowned and internationally networked research center associated with the University of Zurich. It is mainly engaged in the field of standardized performance measurement and carries out school effectiveness studies as well as educational surveys and longitudinal studies relevant to education. The IBE also develops software for large-scale adaptive testing and formative assessment (see `https://www.mindsteps.ch/`) which is implemented in several cantons of Switzerland and also used for research purposes. Located close to downtown Zurich and only seven minutes from the main station, the institute is easily accessible by public transportation. The city of Zurich has consecutively been awarded "city with the world's best quality of life" seven times on Mercer research. With its culture, nature and urban-style living, it offers numerous opportunities for leisure and social life.

Zurich, November 18, 2020