Behaviormetrika – Call for Papers

Special Issue on Work at the Intersection of Educational Data Mining and Statistics

Background

The aim of this special issue, anticipated for publication in September 2021, is to discuss methodological developments at the intersection of educational data mining and statistics. Over the last decade, researchers in educational data mining and learning analytics have begun to ask whether the rigor of their methods can be enhanced through the application of ideas from statistics. At the same time, educational statisticians and psychometricians have become influenced by the idea that data science algorithms and methods can enhance modeling, prediction, and inference. This special issue invites researchers working on core research problems in each of these areas, as well as individuals and teams who bridge this divide, to present their research.

We welcome original papers, notes, and short notes that present both theoretical and empirical work. Position-style papers discussing key research challenges and future goals are welcome as well.

Possible topics may include, but are not limited to:

- Integrating data mining and machine learning into statistical analysis in education
- Statistical frameworks for educational data mining
- Power analysis for educational data mining algorithms such as latent knowledge estimation models (i.e. Bayesian Knowledge Tracing, ELO, Deep Knowledge Tracing)
- Causal inference for educational quasi-experimental studies using machine learning
- Statistical methods for text analysis
- Fast algorithms for model and covariate selection
- Adding statistical rigor to educational data mining algorithms
- Extending latent variable techniques to big data
- Models of complex phenomena at the boundaries of statistics and data mining
- Detection of interaction effects or "what works for who" effects with complex data sets, including meta-analyses
- Statistical and data mining hybrid methods for social network analysis

Submissions

Please prepare your paper following Behaviormetrika's submission guidelines

(http://www.springer.com/statistics/journal/41237). All papers must be submitted to the

journal's submission system (https://www.editorialmanager.com/bhmk/default.aspx).

Please submit the first draft of your paper by November 1, 2020.

In addition, please specify that you submit your paper to the special issue on "**Work at the Intersection of Educational Data Mining and Statistics**" in the cover letter.

Contact details

Queries regarding the special issue can be directed to Ryan Baker (rybaker@upenn.edu) and

Bryan Keller (keller4@tc.columbia.edu).

Timeline

First draft submission November 1, 2020

Publication of the special issue September 2021