Call for Applications to Attend the National NSF Education Data Analytics Collaborative Workshop

Smith Learning Theater, Teachers College, Columbia University, New York City
December 5 & 6, 2019

Currently across K-12 education, schools and districts are investing in Instructional Data Warehouses (IDW) and School Information Systems (SIS) in an effort to provide actionable information for educators to inform evidence-based practice and decision-making. Yet, across research and practice, much work remains to understand the types of data to display that are most helpful to teacher, principal, and central office decision making, as well as what types of data dashboards, visualizations, and UX best serve the needs of schooling communities [1-3]. This work requires insights from both educators in schools as well as the current work of education data scientists working at the intersection of research and practice [4-7]. As part of a larger National Science Foundation funded project, we are gathering educators and education data scientists together for an exciting interactive two-day event to learn together through a datasprint design-based collaborative workshop. The goal of the event is to work to understand the needs of educators around education data and data dashboards, and then iteratively build prototype visualizations and code together to help address educator data use needs across the system. The event will be held on December 5 and 6, 2019, at Teachers College, Columbia University's state-of-the-art 21st century collaborative learning space, the Smith Learning Theater. This NSF funded project is part of a larger Building Community and Capacity (BCC) collaboration with the 56 school districts of Nassau County Long Island, New York.

We are requesting applications to attend the event from **education data scientists** as an *NSF Data Collaborative Fellow*. If accepted, over the two days of the workshop you will be matched into a datasprint team with educators (teachers, principals, superintendents) as well as other education data scientists. Teams will first encounter and discuss a variety of current and possible design ideas through a structured set of discussions and education data science and data use examples, and then work together to create and design visualizations and code. Space is limited, so we are requesting applications to attend as a data scientist participant. To apply to attend the event, please submit a CV/resume and an application letter of 1,000-2,000 words that includes the following (word limit excludes any tables, figures, or references):

- Applicant name, job title, affiliation, and contact information.
- Experience as an education data scientist, including collaborations with educators around data use and/or proficiency in open-source coding environments such as R or Python.
- A discussion of the current issues in the field of education data science, including successes and challenges at the intersection of school decision making, evidence-based improvement cycles, data analytics, and data visualization for improvement.
- An example of how you have addressed an education data science issue in your work, with prototype or final data visualization or analysis, linked to a discussion of impact (or potential impact) on the organization.
- A discussion of any of the current central questions in education data science [3, 5-7] of data privacy, equity, ethics, algorithmic fairness, or data management among others.

As an invited participant, accepted applicants are expected to contribute a chapter as an author to the proceedings from the meeting workshop, including publication of an essay, or research and application paper brief (3-5 pages) on the datasprint outcomes, and/or participant perspectives on data use, data visualization, and data science in education research and practice. Results from the workshop will be provided to participants for additional data analysis for the proceedings contribution. The chapter is intended to build from and extend the submitted application materials. Proceedings from the meeting will be published online in mid-2020 in an open access e-book, including visualizations, and prototype code, with author contributions due in late March, 2020.

While the event is free to attend for accepted applicants (no registration fee), due to limited funding, applicants will need to provide their own travel and housing accommodations for the two days of the event. Lunch and refreshments will be provided each day of the event to attendees.

By applying, please note that you are agreeing to the following:

- Have the work of teams from the workshop be made publicly accessible online.
- Agree to be audio and video recorded within the Learning Theater space for archival and research purposes.
- Participate in pre- and post-event surveys.
- Agree, that if accepted, you will pledge to attend the event, which will be held 9:00am-5:00pm on December 5, and 9:00am to 4:00pm on December 6, 2019.

We aim to accept about 15 applicants, depending on proposal topics, identified datasprint team needs, and event space restrictions. We will inform applicants by mid-September 2019 of the status of their application. The **deadline for submissions is Friday August 16, 2019 at 5pm EDT**. Please email application submission materials in PDF form and CV/resume to Alex J. Bowers (Bowers@tc.edu).

References:

1. Wayman, J.C., S. Shaw, and V. Cho, *Longitudinal Effects of Teacher Use of a Computer Data System on Student Achievement.* AERA Open, 2017. **3**(1): http://doi.org/10.1177/2332858416685534
2. Schildkamp, K., C.L. Poortman, and A. Handelzalts, *Data teams for school improvement.* School Effectiveness and School Improvement, 2016. **27**(2): p. 228-254.
3. Agasisti, T. and A.J. Bowers, *Data Analytics and Decision-Making in Education: Towards the Educational Data Scientist as a Key Actor in Schools and Higher Education Institutions*, in *Handbook on the Economics of Education*, G. Johnes, et al., Editors. 2017, Edward Elgar Publishing: Cheltenham, UK. p. 184-210. https://doi.org/10.7916/D8PR95T2
4. Krumm, A.E., B. Means, and M. Bienkowski, *Learning Analytics Goes to School: A Collaborative Approach to Improving Education*. 2018, New York: Routledge.
5. Bowers, A.J., et al., *Education Leadership Data Analytics (ELDA): A White Paper Report on the 2018 ELDA Summit*. 2019, Teachers College, Columbia University. https://doi.org/10.7916/d8-31a0-pt97
6. Piety, P.J., *Components, Infrastructures, and Capacity: The Quest for the Impact of Actionable Data Use on P–20 Educator Practice.* Review of Research in Education, 2019. **43**(1): p. 394-421.
7. Piety, P.J., D.T. Hickey, and M. Bishop. *Educational data sciences: Framing emergent practices for analytics of learning, organizations, and systems*. in *Proceedings of the Fourth International Conference on Learning Analytics and Knowledge*. 2014. ACM.