

Joshua Rosenberg

Assistant Professor of STEM Education

Highlights

- Experienced data scientist and developer of statistical software for data analysts, educators, and learners
- Research agenda at the intersection of computational and machine learning methods and social science (particularly educational research)
- Principal Investigator for more than 4M in federally-funded research projects
- Author of a book on educational data science and 37 peer-reviewed journal articles
- Mentor to and supervisor for students in computer science, data science, and education

Professional Affiliation

2018-Present **Assistant Professor of STEM Education**, *University of Tennessee*, Knoxville, TN.

Education

2018 **PhD, Educational Psychology & Educational Technology**, *Michigan State University*, East Lansing, MI.

2012 **MA, Educational Technology**, *Michigan State University*, East Lansing, MI.

2010 **BS, Biology**, *University of North Carolina*, Asheville, Asheville, NC.

Awards and Fellowships (Selected)

2021 **Best Poster Award**, *Best Poster Award*, International Conference on Educational Data Mining.

2021-2022 **Fellowship**, *Open Educational Resources (OER) Research*, William and Flora Hewlett Foundation.

Grants (Selected)

2022-2025 **Co-PI**, *Quantifying the robustness of causal inferences: Extensions and applications*, Institute for Education Sciences (\$899,319).

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2019-2022 **PI**, *Understanding the development of interest in computer science: An experience sampling approach*, NSF (\$348,688).

2019-2022 **Co-PI**, *Advancing computational grounded theory for audiovisual data from STEM classrooms*, NSF (\$1,313,855).

Publications (Selected)

1. Estrellado, R. A., Freer, E. A., Mostipak, J., Rosenberg, J. M., & Velásquez, I. C. (2020). *Data science in education using r*. Routledge. <https://datascienceineducation.com/>
2. Rosenberg, J. M., Lawson, M., Anderson, D. J., Jones, R. S., & Rutherford, T. (2020). Making data science count in and for education. *Research Methods in Learning Design and Technology*, 94–110. <https://edarxiv.org/hc2dw/download?format=pdf>
3. Lishinski, A., & Rosenberg, J. (2021). All the pieces matter: The relationship of momentary self-efficacy and affective experiences with CS1 achievement and interest in computing. *Proceedings of the 17th ACM Conference on International Computing Education Research*, 252–265. <https://doi.org/10.1145/3446871.3469740>
4. Rosenberg, J. M., & Krist, C. (2021). Combining machine learning and qualitative methods to elaborate students' ideas about the generality of their model-based explanations. *Journal of Science Education and Technology*, 30(2), 255–267. <https://link.springer.com/article/10.1007/s10956-020-09862-4>
5. Rosenberg, J. M., Burchfield, M., Borchers, C., Gibbons, B., Anderson, D., & Fischer, C. (2021). Social media and students' privacy: What schools and districts should know. *Phi Delta Kappan*, 103(2), 49–53.
6. Rosenberg, J. M., Borchers, C., Dyer, E. B., Anderson, D., & Fischer, C. (2021). Understanding public sentiment about educational reforms: The next generation science standards on twitter. *AERA Open*, 7, 23328584211024261. <https://doi.org/10.1177/23328584211024261>
7. Kubsch, M., Krist, C., & Rosenberg, J. (2022). *Distributing epistemic functions and tasks - a framework for augmenting human analytic power with machine learning in science education research*. OSF Preprints. <https://doi.org/10.31219/osf.io/sg9jk>

Software Developed (Selected)

1. Rosenberg, J. M., Beymer, P. N., Anderson, D. J., Van Lissa, C. J., & Schmidt, J. A. (2018). tidyLPA: An r package to easily carry out latent profile analysis (LPA) using open-source or commercial software. *Journal of Open Source Software*, 3(30), 978. <https://doi.org/10.21105/joss.00978>
2. Rosenberg, J. M. (2018). *Konfound: Quantify the robustness of causal inferences*. CRAN. <https://github.com/jrosen48/konfound>
3. Rosenberg, J. M., Xu, R., Lin, Q., & Frank, K. A. (2022). *Konfound-it! Shiny app*. Shinyapps.io. <http://konfound-it.com/>

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