Benjamin Rydal Shapiro

Assistant Professor of Learning Technologies

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Department of Learning Sciences
Georgia State University
Atlanta, GA 30302-3978

AREAS OF SPECIALIZATION

Learning Sciences, Human-Computer Interaction (HCI), Information Visualization, Computer and Data Science Education, Teacher Education

EDUCATION

Ph.D. in Learning Sciences, 2018
Vanderbilt University's Peabody College of Education
Committee: Rogers Hall (chair), D. Owens, A. Hostetler, D. Fisher, L. Schauble, D. Rowe
Dissertation: *Interaction Geography & the Learning Sciences*

M.Ed. in International Education Policy, 2013
Vanderbilt University's Peabody College of Education
Practicum at University of Melbourne's School of Architecture in Melbourne, Australia

B.A. in Architectural Study, 2009
Middlebury College
Architecture Program at Danish Institute for Study Abroad in Copenhagen, Denmark

PROFESSIONAL EXPERIENCE

Assistant Professor of Learning Technologies, Georgia State University	2020-present
Associate Director, Snap Inc. Center for Computer and Teacher Education	2022-present
Adjunct Assistant Professor, School of Interactive Computing, Georgia Tech	2020-2024
Postdoctoral Fellow, School of Interactive Computing, Georgia Tech	2018-2020
Research Assistant, Space, Learning & Mobility Lab, Vanderbilt University	2013-2018
Research Fellow, Center for the Study of Race & Equity in Education, University of Pennsylvania	2014

Awards and Honors

ACM CSCW 2024 Conference Paper Recognition, 2024

Journal of the Learning Sciences Reviewer of the Year, 2022

Public Interest Technology University Network (PITUN) Fellow ($5,000), 2020

Georgia Tech Recognition of Excellence in Teaching Class of 1934 Award ($1,000), 2019

CSCL Conference Early Career Workshop Travel Grant Award, 2019

SIGCSE Travel Grant Award, 2019

Best Design Paper, Computer-Supported Collaborative Learning (CSCL) Conference, 2017

3rd place ACM CHI student research competition, (CHI '17). ACM, Denver, CO, 2017

1st place digital innovation by graduate student, Vanderbilt Institute for Digital Learning, 2018

1st place Wild Bunch Data Visualization Competition, Vanderbilt University, 2018

Humanities, Arts, Science, and Technology Alliance and Collaboratory Scholar, 2017

Peabody Dean's Fellowship, Vanderbilt University, 2013

Peabody Graduate Honor Scholarship, Vanderbilt University, 2013

SCHOLARSHIP AND PROFESSIONAL DEVELOPMENT

Funding

External Grant Awards

Google Community Research Grant
- Title: *Broadening Responsive Computer Science Pedagogies by Empowering Teaching Assistants*
- Other personnel: Bourgeois, A., Zegura, E., Borela, R., Johnson, W. (Co-PIs)
- Position: Principal Investigator
- Project dates: 2023 – 2026
- Budget: $394,017

NSF:DRK-12
- Title: *Teaching Amidst Uncertainty (Project TAU): Developing Mathematics Teachers' Groupwork Monitoring Practices (#2100784)*
- Other personnel: Horn, L. (PI), Garner, B. (Co-PI), Yong, Darryl (Co-PI)
- Position: Co-Principal Investigator
- Project dates: 2021 – 2025
- Budget: $2,644,923

Bill & Melinda Gates Foundation
- Title: *Tools Competition for Research Tools 2022, 2023, 2024*
- Other personnel: McCarthy, K. (PI)
- Position: Co-Principal Investigator
- Project dates: 2022 – 2025
- Budget: $3,250,000

Schmidt Futures/Walton Family Foundation
- Title: *The Open Data for Assessment Fund*

- Other personnel: Crossley, S. (PI), McCarthy, K. (Co-PI)
- Position: Co-Principal Investigator
- Project dates: 2021 – 2023
- Budget: $1,000,000

NSF:SCC-IRG Track 2
- Title: *DataWorks: Building Smart Community Capacity* (#1951818)
- Other personnel: DiSalvo, B. (PI), DiSalvo, C. (Co-PI), Zegura, E. (Co-PI), Meng, A (Co-PI)
- Position: Co-Principal Investigator
- Project dates: October 2020 – November 2023
- Budget: $1,499,861

Mozilla Foundation
- Title: *Mozilla Responsible Computer Science Challenge*
- Other personnel: Zegura, E. (PI), Borenstein, J. (Co-PI)
- Position: Co-Principal Investigator
- Project dates: October January 2021 – December 2022
- Budget: $50,000

Kendeda Foundation – Living Building Challenge Grant
- Title: *Re-Shape: A Method to Teach Data Ethics for Data Science Education*
- Other personnel: Amanda Meng (Co-PI)
- Position: Principal Investigator
- Project dates: October May 2019 – May 2020
- Budget: $10,000

Publications

Refereed Journal Articles

Numbering system: J# = Journal article

Italics indicate student author

[J12] **Shapiro, B.R.,** Silvis, D., & Hall, R. (2025). Visualization as Theory and Experience: Interactive Qualitative Data Visualization for the Learning Sciences. *Journal of the Learning Sciences.* https://doi.org/10.1080/10508406.2025.2537945

[J11] Tacelosky, K., Sue Kasun, G., Shapiro, B. R., Liao, Y. C., & Harris, K. (2025). Exploring critical AI literacy in language education: A case study. *Foreign Language Annals*, *58*(4), 966-994.

[J10] **Shapiro, B.R.,** Horn, I.S., *Gilliam, S.,* & Garner, B. (2024). Situating Teacher Movement, Space, and Relationships to Pedagogy: A Visual Method and Framework. *Educational Researcher*. *53*(6), 335-347. https://doi.org/10.3102/0013189X241238698

[J9] *Anderson, E.,* Darling-Aduana, J., **Shapiro, B.R.,** Amoako Kayser, A. A., Harris, J., & Alridge, D. P. (2024). Critical Consciousness. Strategies to Humanize Pedagogy in Virtual Elementary Classrooms. *Distance Learning. 21*(3), 69-73.

[J8] Doore, S., **Shapiro, B.R.,** & Zegura, E. (2023). Special Issue on Responsible Computing: Embedding Principles, Practices & Pedagogies. *EngageCSEdu, 2*(2).

[J7] **Shapiro, B.R.,** & Silvis, D. (2025). Animated Movements, Animating Methods: An Interaction Geography Approach to Space and Affect in Early Childhood Education. *Journal of Early Childhood Literacy, 25(3), 901-932.* https://doi.org/10.1177/14687984231212723

[J6] Berson, I.R., Berson, M.J., McKinnon, C., Aradhya, D. Alyaeesh, M. Luo, W., & **Shapiro, B.R.** (2023). An exploration of robot programming as a foundation for spatial reasoning and computational thinking in preschoolers' guided play. *Early Childhood Research Quarterly,* 65, 57-67.

[J5] **Shapiro, B.R.,** Meng, A., Rothschild, A., *Gilliam, S.,* Garrett, C., DiSalvo, C., & DiSalvo, B. (2022). "Bettering Data": The Role of Everyday Language and Visualization in Critical Novice Data Work. *Journal of Education, Technology & Society, 25*(4), 109-125.

[J4] **Shapiro, B.R.,** & Garner, B. (2021). Classroom Interaction Geography: Visualizing Space & Time in Classroom Interaction. *Journal of Research on Technology in Education, 54*(5), 769-783.

[J3] Marin, A., Headrick-Taylor, K., **Shapiro, B.R.,** & Hall, R. (2020). Why Learning on the Move: Intersecting Research Pathways for Mobility, Learning and Teaching, Special Issue in *Cognition and Instruction*, 38(3), 265-280.

[J2] Hall, R., **Shapiro, B. R.,** Hostetler, A., Collins, H., Owens, D., Daw, C., & Fisher, D. (2020). Here and then: Learning by making places with digital spatial story lines. *Cognition & Instruction*, 38(3), 348-373.

[J1] **Shapiro, B.R.,** Hall, R. and Owens, D. (2017). Developing & Using Interaction Geography in a Museum. *International Journal of Computer-Supported Collaborative Learning*, 12(4), 377-399.

Journal Equivalent Conference Proceedings

Acceptance rate below 22% and length commensurate with journal publication

Number system: P# = Conference proceeding

Italics indicate student author

[P10] **Shapiro, B.R.,** *Metts, E., & Zhao, E.* (2025). The Interaction Geography Slicer: Designing Exploratory Spatial Data Visualization Tools for Teachers' Reflective Practice. In *CHI Conference on Human Factors in Computing Systems (CHI '25)*, April 26–May 01, 2025, Yokohama, Japan. ACM, New York, NY, USA, 17 pages. https://doi.org/10.1145/3706598.3713499

[P9] **Shapiro, B.R.,** Hall, R., *Mathur, A. & Zhao, E.* (2025). Exploratory Visual Analysis of Transcripts for Interaction Analysis in Human-Computer Interaction. In *CHI Conference on Human Factors in Computing Systems (CHI '25)*, April 26–May 01, 2025, Yokohama, Japan. ACM, New York, NY, USA, 17 pages. https://doi.org/10.1145/3706598.3713490

[P8] DiSalvo, C., *Rothschild, A., Schenck, L. L.,* **Shapiro, B. R.,** & DiSalvo, B. (2024). When workers want to say no: A view into critical consciousness and workplace democracy in

data work. *Proceedings of the ACM on Human-Computer Interaction, 8*(CSCW1), Article 156. **[ACM CHI Recognition for Contribution to Diversity and Inclusion]**

[P7] *Zegura, C.,* **Shapiro, B.R.,** *MacDonald, R.,* Borenstein, J., and Zegura, E. (2023). "Moment to Moment": A Situated View of Teaching Ethics from the Perspective of Computing Ethics Teaching Assistants. In *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems (CHI '23)*, April 23–28, 2023, Hamburg, Germany. ACM, New York, NY, USA, 15 pages. https://doi.org/10.1145/3544548.3581572

[P6] *Rothschild, A.,* Meng, A., DiSalvo, C., *Johnson, B.,* **Shapiro, B.R.** and DiSalvo, B. (2022). Interrogating Data Work as a Community of Practice. In *Proceedings of the ACM on Human-Computer Interaction,* Vol. 6, CSCW2, Article 307 (November 2022). 29 pages.

[P5] *Johnson, B.,* **Shapiro, B.R.,** DiSalvo, B., *Rothschild, A.,* DiSalvo, C. (2021). Exploring Approaches to Data Literacy through a Critical Race Theory Perspective. In *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems* (CHI '21). May 08–13, 2021, Yokohama, Japan. ACM, New York, NY, USA, 25 pages. [Honorable Mention Award]

[P4] Margulieux, L. E., Denny, P., Cunningham, K., Deutsch, M., & **Shapiro, B.R.** (2021). When wrong is right: The instructional power of multiple conceptions. In *Proceedings of the Seventeenth Annual Conference on International Computing Education Research*. New York, NY: ACM. DOI: 10.1145/3446871.3469750

[P3] **Shapiro, B.R.,** Meng, A., *O'Donnell, C., Lou, C., Zhao, E., Dankwa., B.,* Hostetler, A. (2020). Re-Shape: A Method to Teach Data Ethics for Data Science Education. In *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems* (CHI '20). ACM, Honolulu, HI, USA, Paper 124.

[P2] **Shapiro, B.R.** and Hall, R. (2018). Personal Curation in a Museum. In *Proceedings of the ACM on Human-Computer Interaction,* Vol. 2, CSCW, Article 158 (November 2018). ACM, New York, NY.

[P1] *Solomon, A.,* Guzdial, M., DiSalvo, B., and **Shapiro, B.R.** (2018). Applying a Gesture Taxonomy to Introductory Computing Concepts. In *Proceedings of the 2018 ACM Conference on International Computing Education Research* (ICER '18). ACM, New York, NY, USA, 250-257.

Highly Competitive Conference Proceedings

Number system: P# = Conference proceeding

Italics indicate student author

[P25] *Jin, Sichen,* **Shapiro, B.R**., Endert, A., & Andris, C. (2025). Bridging Spatial and Social Network Analysis Communities through Visual Analytics for Collaborative Work: A Case Study. In *CHI Conference Extended Abstracts on Human Factors in Computing Systems (CHI '25)*, April 26–May 01, 2025, Yokohama, Japan. ACM, New York, NY, USA, 17 pages.

[P24] *Barkhuff, G.,* Johnson, W. G., *Pruitt, I.,* Borela, R., *Namani, V.,* Zegura, E., Bourgeois, A. G., & **Shapiro, B. R.** (2025). Exploring the humanistic role of computer science teaching

assistants across diverse institutions. *Proceedings of the 56th ACM Technical Symposium on Computer Science Education* (SIGCSE TS 2025), February 26–March 1, 2025, Pittsburgh, PA, USA. ACM. https://doi.org/10.1145/3641554.3701861

[P23] *Karki, L.,* Priest, D., *DuBose, J. G.,* Godfrey, Z., *Rothschild, A.,* **Shapiro, B. R.,** & DiSalvo, B. (2025). A window into DataWorks: Developing an integrated work-training curriculum for novice adults. *Proceedings of the 56th ACM Technical Symposium on Computer Science Education* (SIGCSE TS 2025), February 26–March 1, 2025, Pittsburgh, PA, USA. ACM. https://doi.org/10.1145/3641554.3701826

[P22] *Ehrenberg, P.,* Manoukian, K., Eustace, C., **Shapiro, B. R.,** & McCarthy, K. S. (2024). *Exploring learning engineering: Insights from the Tools Competition*. In *International Consortium for Innovation and Collaboration in Learning Engineering (ICICLE) 2024 Conference Proceedings: Solving for Complexity at Scale* (pp. 85–97). EdTech Books.

[P21] **Shapiro, B. R.,** Hall, R., *Mathur, A., & Zhao, E.* (2024). Turn Charts for Interaction Analysis: Visually Mapping the Conversation Floor. In *Proceedings of the 18th International Conference of the Learning Sciences (ICLS) 2024, pp. 43-50*. International Society of the Learning Sciences.

[P20] **Shapiro, B.R.,** *Metts, E., Aggül, Y.,* Horn, I.S. (2024). Supporting teachers' agentic sensemaking and video-based formative feedback: An interaction geography perspective. Paper in symposium on Designing participatory teacher learning environments: Inquiries, methods, and perspectives from learning sciences. *Proceedings of the 18th International Conference of the Learning Sciences (ICLS)*. International Society of the Learning Sciences.

[P19] *Metts, E.* & **Shapiro, B. R.** (2024). Making listening visible: An exploratory case of mathematics teacher listening. In *Proceedings of the 18th International Conference of the Learning Sciences (ICLS 2024).* International Society of the Learning Sciences.

[P18] Garner, B., *Metts, E.,* **Shapiro, B. R.,** *Williams, A., & Jasien, L.* (2023). Designing Classroom Space as an Extension of Pedagogical Judgment: A Case Study. International Society of Learning Sciences annual meeting. Montréal, Quebec, Canada.

[P17] *MacDonald, R.,* Zegura, C., **Shapiro, B.R.,** Borenstein, J., and Zegura, E. (2023). Developing Community Support for Computing Ethics Teaching Assistants. In *Proceedings of the 54th ACM Technical Symposium on Computer Science Education V. 1 (SIGCSE 2023)*, March 15–18, 2023, Toronto, ON, Canada. ACM, New York, NY, USA, 7 pages. https: //doi.org/10.1145/3545945.3569844

[P16] *Mathur, A.* & **Shapiro, B.R.** (2022). Interactive Transcription Techniques for Interaction Analysis. In *Proceedings of the 16th International Conference of the Learning Sciences (ICLS)*. International Society of the Learning Sciences, pg. 19-26. Hiroshima, Japan: International Society of the Learning Sciences.

[P15] Tissenbaum, M., Lindgren, R. et al. (2022). Learning at the Intersection of Physical Spaces and Technology. Symposium. In *Proceedings of the 16th International Conference of the Learning Sciences (ICLS)*. International Society of the Learning Sciences(Vol. 4, pg. 1823-1830). Hiroshima, Japan: International Society of the Learning Sciences.

[P14] *Rothschild, A.,* Booker, J., Davoll, C. Hill, J., Ivey, V., DiSalvo, C., **Shapiro, B.R.,** and DiSalvo, B. (2022). Towards fair and pro-social employment of digital pieceworkers for sourcing machine learning training data. In *CHI Conference on Human Factors in Computing Systems Extended Abstracts* (CHI EA '22). Association for Computing Machinery, New York, NY, USA, Article 2, 1–9.

[P13] **Shapiro, B.R.,** *Lovegall, E.,* Meng, A., Borenstein, J., & Zegura, E. (2021). Using Role-Play to Scale the Integration of Ethics across the Computer Science Curriculum. *In The 52nd ACM Technical Symposium on Computer Science Education (SIGCSE'21)*, March 13-20, 2021, Virtual Event, USA. ACM, New York, NY, USA, 7 pages. https://doi.org/10.1145/1234567890

[P12] **Shapiro, B.R.,** Garner, B., Chae, H.S., Natriello, G. (2020). Classroom Interaction Geography: A Case Study. In *Proceedings of the 14th International Conference of the Learning Sciences (ICLS)*. International Society of the Learning Sciences, (Vol. 4, pg. 1823-1830). Nashville, Tennessee: International Society of the Learning Sciences.

[P11] Jung, Y. J., Dudek, J., Yan, S., Borge, M., Kim, S. H., Liao, J., **Shapiro, B.R.,** & Zimmerman, H. T. (2020). Visualizing Qualitative Data: Creative Approaches for Analyzing and Demonstrating Lively Data from Diverse Learning Settings. In *Proceedings of the 14th International Conference of the Learning Sciences (ICLS) 2020*, Volume 1 (pp. 438-445). Nashville, Tennessee: International Society of the Learning Sciences.

[P10] D'Angelo, C., DeLiema, D., Marin, A., **Shapiro, B.R.,** and Worsley, M. (2020). Multimodal Learning Analytics and Interaction Analysis: Connections, Tensions and New Directions. In *Proceedings of the 14th International Conference of the Learning Sciences (ICLS)*. International Society of the Learning Sciences, (Vol. 5, pg. 2661-2664). International Society of the Learning Sciences.

[P9] **Shapiro, B.R.** (2019). Integrative Visualization: Exploring Data Collected in Collaborative Learning Contexts. In *Proceedings of the 13th International Conference for Computer Supported Collaborative Learning*, (Vol. 1, pg. 184-191). International Society of the Learning Sciences.

[P8] Steier, R., **Shapiro, B.R.,** Christidou, D., Pierroux, P., Davidsen, J., and Hall, R. (2019). Tools and Methods for '4E Analysis': New lenses for analyzing interaction in CSCL. Symposium. In *Proceedings of the 13th International Conference for Computer Supported Collaborative Learning*, (Vol. 2, pg. 759-766). International Society of the Learning Sciences.

[P7] Chapman, K. and **Shapiro, B.R.** (2019). Lines We Trace: Comparing Data Displays to Support Youth Sailing. In *Proceedings of the 13th International Conference for Computer Supported Collaborative Learning*, (Vol. 2, pg. 1009-1012). Lyon, France: International Society of the Learning Sciences.

[P6] **Shapiro, B.R.,** and Hall, R. (2017). Making Engagement Visible: The Use of Mondrian Transcripts in a Museum. In *Proceedings of the 12th International Conference for Computer Supported Collaborative Learning*, (Vol. 1, pp. 33-40). Philadelphia, PA: International Society of the Learning Sciences. **[Award for Best Design Paper]**

[P5] **Shapiro, B.R.** and Pearman II, Francis A. (2017). Using the Interaction Geography Slicer to Visualize New York City Stop & Frisk. In *Proceedings of the IEEE VIS 2017 Arts Program*, VISAP'17. Phoenix, AZ.

[P4] **Shapiro, B.R.** (2017). Using Space Time Visualization in Learning Environment Design. In *Proceedings of the 2017 CHI Conference Extended Abstracts on Human Factors in Computing Systems* (CHI EA '17). ACM, Denver, CO, USA. 178-183. **[Award for 3rd place in ACM CHI Student Research Competition]**

[P3] **Shapiro, B.R.,** and Hall, R. (2017). Interaction Geography in a Museum. In *Proceedings of the 2017 CHI Conference Extended Abstracts on Human Factors in Computing Systems* (CHI EA '17). ACM, Denver, CO, USA. 2076-2083.

[P2] **Shapiro, B.R.** (2017). Exploring the use of Interaction Geography in Post-Occupancy Evaluation. In *Proceedings of the 2nd annual Transitions Symposium*. The University of Melbourne's Innovative Learning Environments and Teacher Change Project, 2016-2019. Melbourne School of Design, University of Melbourne.

[P1] **Shapiro, B.R.,** and Hall, R. (2015). Engagement within Interest Driven Learning Environments. In *Proceedings of the 1st annual Terrains Symposium*, Mapping learning environment evaluation across the design and education landscape: Towards the evidence-based design of educational facilities (pp. 80-86). Melbourne School of Design, University of Melbourne.

Book Chapters Published in Edited Books

C# = Book chapter

[C3] Hall, R., Shapiro, B.R., and the SLaM Lab (2021). Back in the day: A Walking Tour of Historic Jefferson Street. To appear in Thurber, A (Eds.), *The People's Guide to Nashville*.

[C2] Shapiro B.R. (2021) What About Interaction Geography to Evaluate Physical Learning Spaces?. In: Imms W., Kvan T. (eds) *Teacher Transition into Innovative Learning Environments. Springer, Singapore*. https://doi.org/10.1007/978-981-15-7497-9_14

[C1] Harris, A.H., Shapiro, B.R., & Garwood, J.D. (2015). Space: Elementary and Secondary Classrooms. In Scarlett, W.G. (Ed.) Classroom Management: An A-Z Guide. Thousand Oaks, CA: Sage Publications.

Presentations

Invited Talks

Shapiro, B.R., (2025). Visualization as Theory and Experience: Interactive Qualitative Data Visualization for the Learning Sciences. Guest Speaker for *Virtual Interaction Analysis Lab*.

Shapiro, B.R., (2025). Interactive Qualitative Data Visualization for the Learning Sciences. Guest Speaker for *Inclusive Innovation and Teaching* course at University of Michigan.

Shapiro, B.R., (2025). Exploratory Data Visualization for the Learning Sciences. Guest Speaker for *Data Design Studio for AI-powered EdTech* course at the Technical University of Munich.

Shapiro, B.R., (2024). Visualizing Teachers Movement and Use of Space in Classrooms. Presentation for the 4th annual Computer Science for Georgia (CS4GA) Summit.

Shapiro, B.R., Gilliam, S., Metts, L., Garner, B., Yong, D., & Horn, L. (2022). Visually Exploring Teachers Use of Space in the Classroom. Presentation for Mathematics for America, Los Angeles.

Shapiro, B.R. (2022). Expanding Interaction Geography in Museum Studies. Presentation for the Learning Informatics Lab and Science Museum of Minnesota at the University of Minnesota. https://www.youtube.com/watch?v=LEpfK1wX6zg

Ouellet, M. and Shapiro, B.R. (2021). Bridging Network Science and Space-Time Visualization to Study Crime and Support Police-Community Relations. Digital Landscape Initiative Research Symposium at Georgia State University.

Shapiro, B.R. (2020). Current State of the Art in Location-Based Data Technologies in Museums & Visitor Studies. Virtual presentation for Visitor Studies Association.

Shapiro, B.R. (2020). Developing Innovative & Responsible Computer Science Education at Georgia Tech. Keynote presentation for Atlanta Science Festival STEAM at Tech Day sponsored by CEISMC, Georgia Tech.

Shapiro, B.R. (2020). Integrating Data Science into K-12 Curricula. Presentation for Atlanta Science Festival STEAM at Tech Day sponsored by CEISMC, Georgia Tech.

Shapiro, B.R. (2019). Leveraging Personal Data to Cultivate Care in Computing Education. Presentation for Data Science in the Classroom Symposium sponsored by the Data Science Institute at Teachers College, Columbia University.

Shapiro, B.R. (2019). Data Visualization for Learning Spaces. Presentation at The EdLab, Teachers College Columbia University.

Shapiro, B.R. (2019). Information Visualization: Ethical & Contextual Dimensions. Invited talk for Civic Data Science Program at Georgia Tech.

Shapiro, B.R. (2019). Ethical Dimensions of Information Visualization. Invited talk for Dr. Ron Arkin's CS 4001 course at Georgia Tech.

Shapiro, B.R. (2018). Interaction Geography & the Learning Sciences. Presentation at The EdLab, Teachers College Columbia University.

Shapiro, B.R. (2018). Personal Curation in a Museum. Presentation at Symposium for Cultural Heritage at Scale: Crowd-Sourcing with a Human Face. Vanderbilt University.

Hall, R., Shapiro, B. R. & SLaM Lab (2018). Here and then: Learning by making places with digital spatial story lines. Invited talk in Learning Sciences, University of Washington, Seattle.

Hall, R. Y Shapiro, B.R. (2017). Learning on the move and interaction geography in and out of museums. Invited talk in the Learning in Informal Settings seminar series, University of Colorado, Boulder.

Shapiro, B.R. (2015). Mondrian Transcripts of Engagement. Presentation at the Public Scholars Symposium. The Curb Center, Vanderbilt University. Nashville, TN.

Shapiro, B.R. (2014). Bridging Spaces for Learning. Presentation at TEDx Furman University. Greenville, South Carolina. Link: www.youtube.com/watch?v=hF9oWbR4HPo&t=78s

Workshops and Panels

Hennessy Elliott et al. (2026). *Critical considerations on what we can learn from everyday video analysis (EVA) practices: a methodological workshop*. Ethnography in Education Research Forum. University of Pennsylvania.

Shapiro, B.R. (2024). Panel presentation for the Dataseum at Georgia Tech. Sponsored by Georgia Tech University's Library.

Shapiro, B.R. (2024). Bettering Data Exhibit for the Dataseum at Georgia Tech.

Shapiro, B.R. (2021). Panel Presentation on Interdisciplinary Collaboration When Teaching Computer Ethics. The Mozilla Foundation's Teaching Responsible Computing Summit.

Borenstein J., Shapiro, B.R., Bittle, J., & Zegura, E. Integrating Ethics and Responsible Computing into Courses. (2021). Workshop at Georgia Institute of Technology sponsored by ETHICx, the Mozilla Foundation and the Center for Computing and Society.

Refereed Conference Presentations

Shapiro, B.R., Metts, E., Nolting, K., and Garner, B. (2025). *Visualizing Spatial Pedagogy: Insights from a Research-Practice Partnership with Secondary Mathematics Teachers.* Paper presented the National Council of Teachers of Mathematics Annual Meeting and Exposition.

Liao, Yin-Chan, Margulieux, L., Shapiro, B.R., & Calandra, B. (2025). *Faculty Support for Computing and AI Integration in Teacher Preparation.* Poster presentation in Expansive views on computing in teacher ed Structured Poster session; Symposium at the annual meeting of the American Education Research Association, Denver, CO.

Horn, I.S., Garner, B., Shapiro, B. R., & Metts, E. (2025). Limited Access and Bottlenecks: The Role of Teacher Movement and Classrooms Spaces in Equitable Instruction. Paper presentation in *Mapping the Field: The Role of Space in Educational Equity*; Symposium at the annual meeting of the American Education Research Association, Denver, CO.

Horn, I.S., Garner, B., Shapiro, B. R. (2024). *Building Video Infrastructure to Support Teacher Development of Responsive Instructional Practice.* Paper presentation in Advancing Understanding of Infrastructuring in the Learning Sciences; Symposium at the annual meeting of the American Education Research Association, Philadelphia, PA.

Ehrenberg, P., Shapiro, B. R., Manoukian, K., Eustace, C. & McCarthy, K. S. (2024). *Exploring learning engineering: Insights from the Tools Competition.* [Poster presentation]. International Consortium for Innovation and Collaboration in Learning Engineering (ICICLE). Tempe, AZ.

Horn, I.S., Shapiro, B. R., Garner, B., Nolting, K. (2024, April). *Surfacing Dilemmas of Responsive Instructional Practice Through Movement Transcription, Visualization, and Video Review.* Paper presentation in Expanding Participatory Video Analysis for

Ecological and Ethical Validity; Symposium at the annual meeting of the American Education Research Association, Philadelphia, PA.

Hall, R., Reimers, E., Kamara, J. & Shapiro, B.R. (2024). *Looking for Learning Across Places*. Paper presentation at the annual meeting of the American Education Research Association, Philadelphia, PA.

Metts, E., Garner, B., Shapiro, B. R., Smith, J. (2024, February). *Taking Up Space: An Interaction Geography Perspective for Analyzing Teachers' Movement.* Paper presented at the annual meeting of the Association of Mathematics Teacher Educators, Orlando, FL.

Silvis, D. & Shapiro, B.R. (2024). *Slowing Down Reflective Practice: Exploring Pedagogical Pacing in Early Childhood Teacher Preparation Using the Pointillizer Tool*. The 30th annual RECE Conference. Chicago, USA.

Gilliam, S., Williams, A., Shapiro, B.R., Garner, B., Metts, E., & Jasien, L. (2023). *Incorporating Space and Movement into Teachers' Video-Based Reflective Practice: An Interaction Geography Perspective*. American Educational Research Association annual meeting. Chicago, IL.

Gilliam, S. & Shapiro, B.R. (2022). Studying Equity Oriented Classroom Contexts through an Interaction Geography Lens. Poster presented at the Annual Conference of the American Educational Research Association (AERA), San Diego, CA, April 2022.

Zegura, E., Borenstein, J., Shapiro., B.R., Meng, A., Logevall, E. (2020). Embedding Ethics in Computer Science Classes Through Role Play. Paper presented at the Annual Conference of the Association for Practical and Professional Ethics (APPE), New York, NY, April 2018.

Shapiro, B. R., & Hostetler, A. L. (2018). Reshape: A mobility centered learning environment for social studies teachers. Paper presented at the Annual Conference of the American Educational Research Association (AERA), New York, NY, April 2018.

Hostetler, A. L., & Shapiro, B. (2017). All the right moves: Social studies pre-service teachers spatial thinking and mobility in the city. Research paper session for the annual meeting of the College and University Faculty Assembly (CUFA) of the National Council for Social Studies (NCSS), San Francisco, CA, November 2017.

Hall, R., Shapiro, B.R. and the Space, Learning & Mobility Lab (2017). Bridging Learning in Urban Extended Spaces. Presentation at NSF workshop, "Building Capacity for New Genre of Learning on the Move (LoM)" at Vanderbilt University.

Shapiro, B.R. (2017). Interaction Geography & Learning. Symposium paper at the Annual Meetings of the Jean Piaget Society, San Francisco, CA.

Shapiro, B.R., and Hall, R. (2017) Developing & Using Mondrian Transcripts in a Museum. Symposium paper at the Annual Meetings of the Jean Piaget Society, San Francisco, CA.

Shapiro, B.R., and Hall, R. (2016, November). Mondrian Transcripts. Presentation at Spencer Foundation workshop, "Learning how to look and listen: Building capacity for video-based transcription and analysis in social and educational research" at Arizona State University (F. Erickson and A. Artiles).

Shapiro, B.R., and Hall, R. (2016, April). Engagement and Personal Curation in Interest Driven Learning Environments. Symposium paper at the Annual Meetings of the American Educational Research Association, Washington, D.C.

Shapiro, B.R., and Hall, R. (2016, April). The Micro-Geography of Engagement, Personal Curation and Learning on the Move. Symposium paper at the Annual Meetings of the American Educational Research Association, Washington, D.C.

Shapiro, B.R., and Hall, R. (2016) How Young Children Manage Their Families as Interpretive Resources in Cultural Heritage Museums. Symposium paper at the Annual Meetings of the Jean Piaget Society, Chicago, IL.

Shapiro, B.R. (2015). Mapping Engagement in Museum Environments. Symposium presentation, Visualizing Digital Humanities: Spatial Analysis and Representations at the annual HASTAC Conference. Michigan State University, East Lansing, MI.

Shapiro, B.R. (2015). Engagement and Personal Curation in a Museum. Poster Presentation at Social Policy and Research in Cognition and Mathematics Education (SPaRCME). University of California, Berkeley, Berkeley, CA.

Shapiro, B.R., and Hall, R. Assembling American Roots Music: Visitors' Micro-Curation and Engagement in Museum Gallery Spaces Presentation at Association of American Geographers Conference (AAG). Chicago, IL.

Shapiro, B.R. (2013). The Socio-Spatial Resources Required for Online Courses. Poster presentation at the annual Coursera Partners Conference. University of Pennsylvania, Philadelphia, Pennsylvania.

CREATIVE WORKS, TOOLS & OPEN-SOURCE PROJECTS

Interaction Geography Slicer (IGS)
https://www.interactiongeography.org
The IGS is an open-source dynamic space-time visualization system to visualize movement, conversation, and video data over space and time in settings such as classrooms and museums.

Transcript Explorer
https://www.transcriptexplorer.org
Transcript Explorer is an open-source visualization platform to visualize and dynamically explore transcripts of conversation and multimodal interaction.

Pointillizer
https://www.pointillizer.org
The Pointillizer is an open-source visualization tool to apply the artistic technique of pointillism to visualize and experience images and video in playful, dynamic ways.

Mapping Self in Society (MaSelfS)
https://www.maselfs.org
MaSelfS is a framework for teaching personal geography and critical spatial inquiry. Teachers working in different disciplines can use this framework to teach about open-source tools to

collect and dynamically visualize their physical movement data over thematic maps to explore relations between people and the social and cultural life of neighborhoods and communities.

Learning How to Look and Listen
https://www.learninghowtolookandlisten.com
A website that brings together resources from a conference supported by the Spencer Foundation at Arizona State University where an interdisciplinary group of older and younger scholars gathered to document and illustrate the basic patterns of visual and auditory attention that are employed by researchers who use video to study social interaction.

TEACHING AND ADVISING

Teaching

Courses Created

- BIS in Innovation and Entrepreneurship in Education (co-developed with Brendan Calandra and Ashley Stewart)
- Sociocultural & Design Based Foundations of Learning Sciences, LT 8130, Georgia State University

Courses Taught

- Computer-Supported Collaborative Learning, LT 8700, Georgia State University
- Sociocultural & Design Based Foundations of Learning Sciences, LT 8130, GSU
- Instructional Technology in School-Based Settings, LT 7360, Georgia State University
- Computer Science Concepts for Teachers, LT 7503, Georgia State University
- Computer Skills for an Information Age, LT 2010, Georgia State University
- Educational Technology, CS 4660/6460, Georgia Institute of Technology
- Computing, Society & Professionalism, CS 4001, Georgia Institute of Technology
- Information Visualization, CS4460, Georgia Institute of Technology

Massive Open Online Courses (MOOCs)

- Leading Innovation in Arts and Culture (Teaching Assistant), Vanderbilt University: www.coursera.org/learn/arts-culture-innovation
- Leading Strategic Innovation in Organizations (Teaching Assistant), Vanderbilt University: www.youtube.com/watch?v=M3hTB0S1Gts

Advising

Doctoral Students

Major advisor

Edwin Zhao, Learning Technologies, PhD, expected graduation 2027
Sierra Gilliam, Learning Technologies, PhD, expected graduation 2025

Committee member

Amber Solomon, Georgia Tech Interactive Computing, Dissertation passed March 2021.
Bryan Cox, LT, Dissertation passed Spring, 2023.

Ali Heidari, LT, Dissertation passed Spring, 2024.
Kristin Hemingway, LT, expected graduation 2026
Erin Anderson, LT, Dissertation passed Spring, 2025
Tia Martin, LT, expected graduation 2028
Jinho Kim, LT, expected graduation 2026
Kyla Harris, LT, expected graduation 2026
Lia Haddadian, LT, expected graduation summer 2025

Master's Students

Arpit Mathur, Advisor (2019-2020)
Cody O'Donnell, Advisor on thesis project that received 1st place award from Georgia Tech HCI Program (2019-2020)
Charlotte Lou, Advisor, (2019)

Undergraduate Students

Gabe DuBose (2022)
Christine W. Hsieh, Advisor (2020)
Bianca A. Dankwa, Advisor (2019-2020)

SERVICE

National and Professional Community

Leadership

International Conference of the Learning Sciences Senior PC Member	2021-present
Associate Chair ACM CHI, Learning, Education and Families sub-committee	2020-present
AmplifyLearn AI IES Advisory Board	2025
CityVis Workshop 2022 Program Planning Committee and PC Member	2022
Associate Chair ACM Conference on Computer-Supported Cooperative Work & Social Computing	2019

Reviewer

NSF Review Panel (October 2023)
NSF Review Panel (January 2023)
NSF Review Panel (March 2021)
American Education Research Association Division C
American Education Research Association SIG-Learning Sciences
Computer-Supported Cooperative Work (CSCW)
Computer-Human Interaction (CHI)
Educational Researcher (AERA)
Fairness, Accountability, and Transparency (ACM FAccT)
International Conference of the Learning Sciences
International Journal of Child-Computer Interaction
Interaction Design and Children
IMWUT
Journal of Early Childhood Literacy

Journal of Learning, Culture and Social Interaction
Journal of Learning Sciences
Journal of Cognition & Instruction
Journal of Learning Analytics
Journal of Statistics & Data Science Education
Review of Educational Research (RER)
Transactions on Computing Education (TOCE)
Transactions on Visualization and Computer Graphics

State and Local Community

Speaker for the 4th annual Computer Science for Georgia (CS4GA) Summit	2024
Siegal Family Atlanta Design thinking/computer science workshop	2023
Processing Foundation Fellows and Teaching Fellows Advisor	2023
CSForAll Workshop at Georgia Tech	2022
Keynote presentation for Atlanta Science Festival STEAM at Georgia Tech	2020
Georgia Department of Education Data Science Standards Reviewer	2020
Lab Atlanta School Advisor and Mentor	2018-2020

Department, College, and University

LS Department Faculty Affairs Committee	2021-present
LS Department Diversity, Equity & Inclusion Committee	2020-2025
Search Committee Member for Department of Kinesiology and Health	2024
Search Committee Member for Department of Learning Sciences	2022
Co-founder, Vanderbilt's Design for America Studio	2013-2017
Member, Vanderbilt's Quality Enhancement Plan Subcommittee, Design as an Immersive Vanderbilt Experience (DIVE)	2017
Conference organizer, Learning on the Move Workshop, Nashville, TN (2017)	2017
Conference organizer, Designing Spaces for Learning in collaboration with the University of Melbourne's School of Architecture, Nashville, TN	2014

SELECTED PRESS

- Visualizing Teacher Movement, Classroom Space and Teaching Link
- Georgia State, Georgia Tech Researchers Receive Google Community Grant to Support Computer Science Teaching Assistants' Inclusive Teaching Practices Link
- Researchers Look to Transform TA Training with Google Community Grant Link
- Assistant Professors Kathryn McCarthy and Ben Shapiro were featured in a Georgia State University news story on the Tools Competition

- Shapiro Publishes Work on Developing Personally and Culturally Relevant Data Science Education Link
- Supporting Mathematics Teachers as They Monitor Students' Small Group Work. Link
- Working Towards Fair Data for All: DataWorks. Link
- Teaching with Multiple Conceptions. Link
- Collaborative University Startup Helping Underserved Communities Gain Data Science Skills, 2021. Link
- Personal Geography Tools for Teachers, 2021. Link
- Collaborative Startup Helping People in Disadvantaged Communities Learn Entry-level Data Science Skills, 2020. Link
- Learning from Student Movement Across Atlanta, Atlanta Regional Commission, November 2019. Link
- Students Recognized for Eye Catching Data Visualizations, Vanderbilt News, 2017. Link
- Bridging Spaces for Learning. TEDx Furman University, 2014. Link