

Appointments

Director, Co-CREATE (Community-Based, Culturally Responsive, Expansive, and Authentic Technology Education) (2023 – Present)

Northwestern University, School of Education and Social Policy & McCormick School of Engineering

Director of Programs, Black Kids Predict Initiative (2020-Present)

Northwestern University

Associate Professor and Karr Family Professor, Learning Sciences and Computer Science (2023-Present)

Northwestern University, School of Education and Social Policy & McCormick School of Engineering

Assistant Professor, Learning Sciences and Computer Science (2016-2023)

Northwestern University, School of Education and Social Policy & McCormick School of Engineering

Post-Doctoral Scholar, Educational Psychology and Computer Science (2014-2016) *University of Southern California, Institute for Creative Technologies & Rossier School of Education*

Education

Ph.D. in Learning Sciences and Technology Design (2014)

Graduate School of Education, Stanford University, Stanford, California

Thesis: Making with Understanding: Research on Studies from a Constructionist Learning Environment

Dissertation Committee: Paulo Blikstein (advisor), Dan Schwartz, Carl Weiman, Roy Pea

M.S. in Computer Science (2014)

Computer Science Department, Stanford University, Stanford, California

Specialization: Artificial Intelligence and Information Management and Analytics.

B.S. in Chemical Engineering (2007)

Chemical Engineering Department, Stanford University, Stanford, California

B.A. Spanish and Portuguese (2007)

Spanish and Portuguese Department, Stanford University, Stanford, California

Publications

Journal Papers

1. Abrahamson, D., Worsley, M., Pardos, Z., & Ou, L. (2022). Learning analytics of embodied design: Enhancing synergy. *International Journal of Child-Computer Interaction*, 100409. <https://doi.org/10.1016/j.ijcci.2021.100409>
2. Worsley, M., Martinez-Maldonado, R., & D'Angelo, C. (2021). A New Era in Multimodal Learning Analytics: Twelve Core Commitments to Ground and Grow MMLA. *Journal of Learning Analytics*, 1-18. <https://doi.org/10.18608/jla.2021.7361>
3. Bar-El, D & Worsley, M. (2021). Making the Maker Movement More Inclusive: Lessons Learned from a Course on Accessibility in Making. *International Journal of ChildComputer Interaction*. <https://doi.org/10.1016/j.ijcci.2021.100285> ***IJCCI Best Paper of 2021 Award**
4. Worsley, M. (2021). Exploring Ideation Strategies as an Opportunity to Support and Evaluate Making. *Information and Learning Sciences*. Vol. 122 No. 3/4, pp. 127-146. <https://doi.org/10.1108/ILS-08-2020-0194>

5. Worsley, M., Anderson, K., Melo, N., & Jang, J.Y. (2021). Designing Analytics for Collaboration Literacy and Student Empowerment. *Journal of Learning Analytics*. <https://doi.org/10.18608/jla.2021.7242>
6. Worsley, M, and Bar-El, D. (2020). Inclusive Making: Designing tools and experiences to promote accessibility and redefine making. *Computer Science Education*. <https://doi.org/10.1080/08993408.2020.1863705>
7. Jones, S., Thompson, J., & Worsley, M. (2020). Data in Motion: Sports as a Site for Expansive Learning. *Computer Science Education Journal*. Taylor & Francis. <https://doi.org/10.1080/08993408.2020.1805287>
8. Perez, M., Jones, S., Thompson, J. and Worsley, M. (2019). Data in Motion: Supporting Youth Interest in Athletics Through Multimodal Data Analytics. *XRDS* 25, 4: 50–53. <https://doi.org/10.1145/3331073>
9. Worsley, M. & Blikstein, P. (2018). A Multimodal Analysis of Making. *International Journal of Artificial Intelligence in Education*. 28, 385–419. Springer. <https://doi.org/10.1007/s40593-017-0160-1>
10. Worsley, M. & Blikstein, P. (2017). Reasoning Strategies in the Context of Engineering Design with Everyday Materials. *The Journal of Pre-College Engineering Education Research*, 6(2), 57-74. <https://doi.org/10.7771/2157-9288.1126>
11. Ochoa, X. & Worsley, M. (2016). Augmenting learning analytics with multimodal sensory data. *Journal of Learning Analytics*, 3(2), 213–219. <http://dx.doi.org/10.18608/jla.2016.32.10>
12. Blikstein, P. & Worsley, M. (2016). Multimodal learning analytics and education data mining: Using computational technologies to measure complex learning tasks. *Journal of Learning Analytics*, 3(2), 220–238. <http://dx.doi.org/10.18608/jla.2016.32.11>
13. Blikstein, P., Worsley, M., Piech, C., Gibbons, A., Sahami, M., & Cooper, S. (2014). Programming Pluralism: Using Learning Analytics to Detect Patterns in Novices' Learning of Computer Programming. *The Journal of the Learning Sciences*. 23 (4), 561-
14. 599. Routledge. <https://doi.org/10.1080/10508406.2014.954750>
15. Worsley, M. & Blikstein, P. (2014). Analyzing Engineering Design through the Lens of Computation. *Journal of Learning Analytics*. 1 (2), 151-186. <https://doi.org/10.18608/jla.2014.12.8>

Peer-Refereed Book Chapters

1. Roscoe, R., Salehi, S., Dowell, N., Worsley, M., Piech, C., & Luckin, R. (2023). Inclusion and Equity as a Paradigm Shift for Artificial Intelligence in Education. In *Artificial Intelligence in STEM Education: The Paradigmatic Shifts in Research, Education, and Technology*
2. Worsley, M. (2023). Artificial Intelligence Innovations for Multimodal Learning, Interfaces, and Analytics. In *AI for Learning*. 19-35. Springer Nature. https://doi.org/10.1007/978-3-03109687-7_2
3. Worsley, M. (2022). Framing the Future of Multimodal Learning Analytics. In *Multimodal Learning Analytics Handbook*. Springer. Springer, Cham. https://doi.org/10.1007/978-3031-08076-0_14
4. Gomez, K., Gomez, L., & Worsley, M. (2021). Interrogating the Role of CSCL in Diversity, Equity, and Inclusion. In *the International Handbook on Computer Supported Collaborative Learning*. vol 19. Springer, Cham. https://doi.org/10.1007/978-3-03065291-3_6
5. Martinez-Maldonado, R., Schneider, B. & Worsley M. (2021). Multimodal Learning Analytics and Computer-Supported Collaborative Learning. In *the International Handbook on Computer Supported Collaborative Learning*. vol 19. Springer, Cham. https://doi.org/10.1007/978-3-030-65291-3_34
6. Blikstein, P. & Worsley, M. (2018). Multimodal Learning Analytics and Assessment of OpenEnded Artifacts. In Saxberg, B., & Clark, R. (Eds), *Learning Analytics in Education*.
7. Blikstein, P. & Worsley, M. (2016). Children are not Hackers: building a culture of powerful ideas, deep learning, and equity in the maker movement. In Peppler, K. & Kafai, Y. & Halverson, E. (Eds), *Makeology*. <https://doi.org/10.4324/9781315726519-5>

Peer-Refereed Conference Proceedings

1. Quiterio, A., Kumar, V., & Worsley, M. (2024). When Athletes Play Around Technology-A Sporting Approach to Computing Inquiry. In *Proceedings of the Symposium on Learning, Design and Technology* (pp. 30-37).
2. Lee, S. P., & Worsley, M. (2024). Toward Liberatory Praxis: Facilitative Moves and Tensions in Youth Organizing. In *Proceedings of the 18th International Conference of the Learning Sciences-ICLS 2024*, pp. 1558-1561. International Society of the Learning Sciences.

3. Issa, J., Kumar, V., & Worsley, M. (2024). Spatial Cognition Through Gestural Interfaces: Embodied Play and Learning with Minecraft. In International Conference on Human-Computer Interaction (pp. 45-56). Cham: Springer Nature Switzerland.
4. Schneider, B., Davis, R., Martinez-Maldonado, R., Biswas, G., Worsley, M., & Rummel, N. (2024). Stepping Outside the Ivory Tower: How Can We Implement Multimodal Learning Analytics in Ecological Settings, and Turn Complex Temporal Data Sources into Actionable Insights?. In Proceedings of the 17th International Conference on Computer-Supported Collaborative Learning-CSCL 2024, pp. 323-330. International Society of the Learning Sciences.
5. Nelson, A., Guo, A., Worsley, M., Esibill, D., & Hester, J. (2023). Mālama 'Āina through Micro:bits in Kāne'ōhe: A Place-Based Approach to Teaching CS in a Kaiapuni (Hawaiian Immersion) Bilingual School Setting. In Proceedings of the 2023 IEEE RESPECT Conference.
6. Lee, S., James, T., Simmons, S., Jones, S.T., Kumar, V., and Worsley, M. (2023). Toward Co-Design with Refugee Youth: Facilitation Through a Social-emotional Framework. In Proceedings of the 22nd Annual ACM Interaction Design and Children Conference (IDC '23). Association for Computing Machinery, New York, NY, USA, 593–597. <https://doi.org/10.1145/3585088.3593870>
7. Vishesh Kumar, Safinah Ali, and Marcelo Worsley. (2023). PaintBall – Coding Sports Into Art for Cross-Interest Computational Connections. In Proceedings of the 22nd Annual ACM Interaction Design and Children Conference (IDC '23). Association for Computing Machinery, New York, NY, USA, 713–715. <https://doi.org/10.1145/3585088.3594492>
8. Kumar, V., Worsley, M. et al. (2023). Expansive Lenses to Examine Interventions (of) Moving Across Contexts. To appear in proceedings of ISLS 2023.
9. Lee, S., Jones, S., Kumar, V., and Worsley, M. (2023). Unsettling Social Emotional Learning: Perspectives from Working with Resettled Refugee Youth. To appear in proceedings of ISLS 2023.
10. Wallace, A., Quiterio, A., Kumar, V., & Worsley, M. (2023). How Youth Connect Sports with Technology. In SIGCSE 2023 - Proceedings of the 54th ACM Technical Symposium on Computer Science Education (pp. 1351). (SIGCSE 2023 - Proceedings of the 54th ACM Technical Symposium on Computer Science Education; Vol. 2). Association for Computing Machinery, Inc. <https://doi.org/10.1145/3545947.3576296>
11. Wallace, A., Quiterio, A., Kumar V., Worsley, M. (2023). Culturally Responsive Computing for Black Boys through Sports Technology. To appear in proceedings of ISLS 2023.
12. Kumar, V., and Worsley, M. (2023). Scratch for Sports: Athletic Drills as a Platform for Experiencing, Understanding, and Developing AI-driven Apps. To appear in proceedings of the Thirteenth AAAI Symposium on Educational Advances in Artificial Intelligence. Washington, DC, USA.
13. Gorson, J., Cunningham, K., Worsley, M., & O'Rourke, E. (2022). Using Electrodermal Activity Measurements to Understand Student Emotions While Programming. In Proceedings of the 2022 ACM Conference on International Computing Education Research-Volume 1. 105-119. ACM, New York NY, USA. <https://doi.org/10.1145/3501385.3543981>
14. Worsley, M. (2022). PE++: Exploring Opportunities for Computational Thinking in Physical Education. In the Proceedings of the 2022 Interaction Design and Children Conference. ACM, New York, NY, USA. <https://doi.org/10.1145/3501712.3535293>
15. Bodon, H., Kumar, V., Worsley, M. (2022). Youth Experiences with Authentically Embedded Computer Science in Sports. In the Proceedings of the 2022 Interaction Design and Children Conference. ACM, New York, NY, USA. <https://doi.org/10.1145/3501712.3535297>
16. Worsley, M. (2022). Examining the Realities and Nuances of 'Low-stakes' Interest-Driven Learning Environments. In the Proceedings of the 2022 RESPECT conference. IEEE. Philadelphia, PA, USA.
17. Turakhia, D. Blikstein, P., Holbert, N., Worsley, M., Jacobs, J., Anderson, F., Gong, J., DesPortes, K., and Mueller, S. (2022). Reimagining Systems for Learning Hands-on Creative and Maker Skills. In CHI Conference on Human Factors in Computing Systems Extended Abstracts (CHI EA '22). Association for Computing Machinery, New York, NY, USA, Article 94, 1–7. <https://doi.org/10.1145/3491101.3503732>
18. Worsley, M., Mendoza, K., Mwititi, T., Zhen, M., & Jiang, M. (2021). Multicraft: A multimodal interface for supporting and studying learning in Minecraft. In Proceedings of the 2021 Human Computer Interaction International Conference. https://doi.org/10.1007/978-3030-77414-1_10
19. Worsley, M. Lee, S., Jones, S. (2021). Family-Friendly Professional Development. In the Proceedings of the 2021 ISLS Conference.

20. Worsley, M. (2021). Seeing Spatial Reasoning. In Companion Proceedings of the 2021 Learning Analytics and Knowledge (LAK) Conference. (pp. 55-57). SoLAR.
21. McHugh, T., Saha, A., Bar-El, D., Worsley, M., and Piper, A. M. (2021). Towards Inclusive Streaming: Building Multimodal Music Experiences for the Deaf and Hard of Hearing. In CHI Conference on Human Factors in Computing Systems Extended Abstracts (CHI '21 Extended Abstracts), May 8–13, 2021, Yokohama, Japan. ACM, New York, NY, USA 7 Pages. <https://doi.org/10.1145/3411763.3451690>
22. Perez, M., Jones, S., Lee, S., and Worsley, M. (2020). Intergenerational Making with Young Children. In Proceedings of the ACM 2020 Fablearn Conference. 68-73. <https://doi.org/10.1145/3386201.3386225>. ***Best Full Research Paper Award.**
23. Andrus, B., Bar-El, D., Msall, C., Uttal, D., and *Worsley, M. (2020). Minecraft as a Generative Platform for Analyzing and Practicing Spatial Reasoning. Spatial Cognition XII. (pp.297-
24. 302). Springer. https://doi.org/10.1007/978-3-030-57983-8_22 ***Corresponding author**
25. Clegg, T., Edouard, K., Greene, D., Jones, S., Melo, N., Nasir, N., Shapiro, R. B., Smith, M., Wright, C., *Worsley, M., and Zimmermann-Niefield, A. (2020). Reconceptualizing Legitimate and Generative Learning Experiences in Sports and Technology. In Proceedings of the International Conference of the Learning Sciences. <https://repository.isls.org/handle/1/6673>. ***Corresponding author**
26. D'Angelo, C., DeLiema, D., Marin, A., Shapiro, B., & *Worsley, M. (2020). Multimodal Learning Analytics and Interaction Analysis: Connections, Tensions and New Directions. In Proceedings of the International Conference of the Learning Sciences. ***Corresponding author**
27. Worsley, M. and Barel, B., (2020). Spatial Reasoning in Minecraft: An Exploratory Study of InGame Spatial Practices. In Proceedings of the International Conference of the Learning Sciences.
28. Worsley, M., and Ochoa, X. (2020). Towards Collaboration Literacy Development through Multimodal Learning Analytics. In Companion Proceedings of the 2020 Learning Analytics and Knowledge Conference.
29. Martin, K., Wang, E. Q., Bain, C., & Worsley, M. (2019). Computationally Augmented Ethnography: Emotion Tracking and Learning in Museum Games. In International Conference on Quantitative Ethnography (pp. 141-153). Springer, Cham.
30. Anderson, K. J., Dubiel, T., Tanaka, K., Worsley, M., Poultney, C., & Brenneman, S. (2019). Chemistry Pods: A Multimodal Real Time and Retrospective Tool for the Classroom. In 2019 International Conference on Multimodal Interaction (pp. 506-507).
31. Bar-El, D. and Worsley, M. (2019). Blocks With Friends: Collaborative Programming with Minecraft. Connected Learning Summit 2019.
32. Bar-El, D. and Worsley, M. (2019). Tinkering with Music: Designing a Maker Curriculum for an After-School Youth Club. In ACM 2019 Interaction Design for Children Conference
33. Jones, S., Perez, M., Lee, S., Suzuki, K., Furuichi, K., & Worsley, M. (2019). Facilitation in an Intergenerational Making Activity: How Facilitative Moves Shift Between Traditional and Digital Fabrication. In ACM 2019 Interaction Design for Children Conference
34. Bergner, Y., Abramovich, S., Worsley, M. and Chen, O. (2019). What are the learning and assessment objectives in educational Fab Labs and Makerspaces? In Proceedings of ACM Fablearn 2019.
35. Lee, S. & Worsley, M. (2019). Designing for and Facilitating Meaningful Making with Refugee Children. Fablearn 2019.
36. Martin, K., Wang, E., Bain, C. & Worsley, M. (2019). Analyzing Affective States Alongside Qualitative Analysis. In Companion Proceedings of the Learning Analytics and Knowledge Conference.
37. Perez, M., Furuichi, K., Jones, S., Lee, S., Suzuki, K. & Worsley, M. (2019). Using Multimodal Analytics to Analyze Family Interactions in a “Making” Activity. In Companion Proceedings of the Learning Analytics and Knowledge Conference.
38. Lee, S., Perez, M., Burgess, B. & Worsley, M. (2018). Utilizing Natural Language Processing (NLP) to Evaluate Engagement in Project-Based Learning. In Proceedings of the IEEE Teaching, Assessment and Learning for Engineering (TALE) 2018 Conference. pp. 369372.
39. Furuichi, K., & Worsley, M. (2018). Using Physiological Responses to Capture Unique Idea Creation In Team Collaborations. In Companion of the 2018 ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW '18). ACM, New York, NY, USA, 369-372. DOI: <https://doi.org/10.1145/3272973.3274099>
40. Worsley, M., Barel, D., Davison, L., Large, T., & Mwiti, T. (2018) Multimodal Interfaces for Inclusive Learning. In the Proceedings of the 2018 Artificial Intelligence in Education Conference. Springer. pp. 389-393.

41. Worsley, M. (2018). Multimodal Learning Analytics for the Qualitative Researcher. In the Proceedings of the 2018 International Conference of the Learning Sciences. London, England. pp. 1109-1112.
42. Lee, S., Barel, D., Martin, K., Worsley, M. (2018). Facilitation in Informal Makerspaces. In the Proceedings of the 2018 International Conference of the Learning Sciences. London, England. pp. 1759-1760.
43. Worsley, M. (2018). Multimodal Learning Analytics' Past, Present, and, Potential Futures. In *Companion Proceedings 8th International Conference on Learning Analytics & Knowledge (LAK18)*. Sydney, Australia, March 2018. pp. 365-369.
44. Worsley, M. (2018). (Dis)Engagement Matters: Identifying Efficacious Learning Practices with Multimodal Learning Analytics. In Proceedings of the International Conference on Learning Analytics and Knowledge, Sydney, Australia, March 2018 (LAK'18), DOI: <https://doi.org/10.1145/3170358.3170420>
45. Andrade, A., & Worsley, M. (2017). A methodological framework for the exploratory analysis of multimodal features in learning activities. CEUR Workshop Proceedings, 1828, 99103.
46. Worsley, M. (2017). Engineering design with everyday materials multimodal dataset. CEUR Workshop Proceedings, 1828, 104-110.
47. Spikol, D., Prieto, L., Rodríguez-Triana, M.J., Worsley, M., Ochoa, X., Cukurova, M., Vogel, B., Ruffaldi, E., and Lunde Ringtved, U. (2017). Current and future multimodal learning analytics data challenges. In Proceedings of the Seventh International Learning Analytics & Knowledge Conference (LAK '17). ACM, New York, NY, USA, 518-519. DOI: <https://doi.org/10.1145/3027385.3029437>
48. Worsley, M., Abrahamson, D., Blikstein, P., Grover, S., Schneider, B., & Tissenbaum, M. (2016). Situating multimodal learning analytics. In C.-K. Looi, J. L. Polman, U. Cress, & P. Reimann (Eds.), "Transforming learning, empowering learners," Proceedings of the International Conference of the Learning Sciences (ICLS 2016) (Vol. 2, pp. 1346-1349). Singapore: International Society of the Learning Sciences.
49. Worsley, M. Scherer, S., Morency, L.P., & Blikstein, P. (2015). Exploring Behavior Representation for Learning Analytics. In Proceedings of the 2015 International Conference on Multimodal Interaction. ACM, New York, USA. pp. 251-258.
50. Worsley, M, Chiluiza, K., Grafsgaard, J., & Ochoa, X., (2015). 2015 Multimodal Learning and Analytics Grand Challenge. In Proceedings of the 2015 International Conference on Multimodal Interaction. ACM, New York, USA. pp. 525-529.
51. Worsley, M. & Blikstein, P. (2015). Leveraging multimodal learning analytics to differentiate student learning strategies. In Proceedings of the Fifth International Conference on Learning Analytics and Knowledge, Poughkeepsie, New York, pp. 360-367.
52. Worsley, M. and Blikstein, P. (2015). Using Learning Analytics to Study Cognitive Disequilibrium in a Complex Learning Environments. In Proceedings of the 5th Annual Conference on Learning Analytics and Knowledge. pp. 426-247. ACM
53. Ochoa, X., Worsley, M., Chiluiza, K., & Luz, S. (2014). MLA'14: Third Multimodal Learning Analytics Workshop and Grand Challenges. In Proceedings of the 16th International Conference on Multimodal Interaction. pp. 531-532. ACM.
54. Worsley, M. (2014). Multimodal Learning Analytics as a Tool for Bridging Learning Theory and Complex Learning Behaviors. In Proceedings of the 2014 International Conference on Multimodal Interaction. ACM, New York, NY, USA. pp 1-4
55. Worsley, M. & Blikstein, P. (2014). Deciphering the Practices and Affordances of Different Reasoning Strategies through Multimodal Learning Analytics. In Proceedings of the 2014 International Conference on Multimodal Interaction. ACM, New York, NY, USA. pp 2127.
56. Worsley, M. & Blikstein, P. (2014). Using Multimodal Learning Analytics to Study Learning Mechanisms. In Proceedings of the 2014 Educational Data Mining Conference. pp 431432.
57. Worsley, M. & Blikstein, P. (2014). Assessing the Makers: The Impact of Principle-Based Reasoning on Hands-on, Project-Based Learning. In Proceedings of the 2014 International Conference of the Learning Sciences. Vol 3. pp 1147-1151.
58. Morency, L. Oviatt, S., Scherer, S. Weibel, N. & Worsley, M. (2013). ICMI 2013 Grand Challenge Workshop on Multimodal Learning Analytics. In Proceedings of the 15th ACM international conference on Multimodal Interaction (ICMI '13). ACM, New York, NY, USA. pp. 373-378.
59. Worsley, M., & Blikstein, P. (2013). Programming Pathways: A Technique for Analyzing Novice Programmers' Learning Trajectories. In Artificial Intelligence in Education. Springer Berlin Heidelberg. pp. 844-847.

60. Gomes, J. Yassine, M., Worsley, M., Blikstein, P. (2013). Analysing Engineering Expertise of High School Students Using Eye Tracking and Multimodal Learning Analytics. In Proceedings of the Educational Data Mining 2013 (EDM '13). Memphis, TN, USA. pp. 375-377.
61. Worsley, M. & Blikstein, P. (2013). Toward the Development of Multimodal Action Based Assessment. In Proceedings of the Third International Conference on Learning Analytics and Knowledge (LAK '13). ACM, New York, NY, USA, pp. 94-101.
62. Worsley, M. (2012). Multimodal Learning Analytics: Enabling the Future of Learning through Multimodal Data Analysis and Interfaces. In Proceedings of the 14th ACM international conference on Multimodal interaction (ICMI '12). ACM, New York, NY, USA. pp 353-356.
63. Scherer, S., Worsley, M. & Morency, L. (2012). 1st international workshop on multimodal learning analytics: extended abstract. In Proceedings of the 14th ACM international conference on Multimodal interaction (ICMI '12). ACM, New York, NY, USA, pp. 609-610.
64. Worsley, M. & Blikstein P. (2012). A Framework for Characterizing Student Changes in Student Identity During Constructionist Learning Activities. In Proceedings of Constructionism 2012. pp 115-125. Athens, Greece.
65. Worsley, M. & Blikstein, P. (2012). An Eye For Detail: Techniques For Using Eye Tracker Data to Explore Learning in Computer-Mediated Environments. In the Proceedings of the 2012 International Conference of the Learning Sciences (ICLS '12). Sydney, Australia. pp 561-562.
66. Worsley, M., Johnston, M. & Blikstein P. (2011). OpenGesture: a low cost authoring framework for gesture and speech based application development and learning analytics. In Proceedings of the 10th International Conference on Interaction Design and Children (IDC '11). ACM, New York, NY, USA. pp 254-256.
67. Worsley, M. & Blikstein P. (2011). What's an Expert? Using learning analytics to identify emergent markers of expertise through automated speech, sentiment and sketch analysis. In Proceedings for the 4th Annual Conference on Educational Data Mining. Eindhoven, Netherlands. pp 235-240.
68. Worsley, M. & Johnston, M. (2010). Multimodal Interactive Spaces: MagicTV and MagicMAP. Spoken Language Technology Workshop (SLT '10), IEEE. San Francisco, CA, USA. pp 161-162

Refereed Conference Presentations

1. Lewis, Z., Lee, S. P., Jones, S. T., Nanoff, T., & Worsley, M. (2023). For maker's sake: A somatic exploration of making. In 22nd Annual ACM Interaction Design and Children Conference: Rediscovering Childhood, IDC 2023 (pp. 792-794). Association for Computing Machinery, Inc.
2. Wallace, A., Quiterio, A., Kumar, V., and Worsley, M. (2023). How Youth Connect Sports with Technology. Presented at the SIGCSE 2023 Technical Symposium. Toronto, Canada.
3. Smith, M., Melo, A. M., Kumar, V., and Worsley, M. (2023). Sports and Technology Teaching as a Jump-off Space for Classroom Conversations about Ableism. Presented at the 2023 AERA Annual Conference. Chicago, IL, USA.
4. Worsley, M. (2023). Exploring Strategies for K-8 Interest Driven Computer Science Education. Presented at the 2023 AERA Annual Conference. Chicago, IL, USA.
5. Worsley, M. (2023). AI in my classes? Learner perceptions of a collaboration analytics platform. Presented at the 2023 AERA Annual Conference. Chicago, IL, USA.
6. Worsley, M. Perry, M., Butler, M., and Kumar, V. (2023). Engaging Youth in Constructive Discussions About Artificial Intelligence Technology and Inclusion in Computer Science. Presented at the 2023 AERA Annual Conference. Chicago, IL, USA.
7. Arrants, S., Kennedy, D., Harrison, P., Sundaram, S., Bar-El, D., and Worsley, M. (2020). Textile – Inclusive Navigation for Makerspaces. Presented at the 2020 Fablearn Conference.
8. Caniglia, G., Trucksis, N., Young, T., and Worsley, M. (2020). The Talking Makerspace: An Inclusive Audio-Tactile Display for Learning About Making. Presented at the 2020 Fablearn Conference.
9. Worsley, M., Jones, S., Thompson, J., Smith, M. (2020). Data in Motion: Designing for authentic connections between STEM and Sports. Presented at the International Conference of the Learning Sciences.
10. Lee, S., Perez, M., Jones, S. and Worsley, M. (2020). Models of Making: Educators' Practical Constraints for Making in Formal and Informal Spaces. Presented at the Annual Meeting of the American Education Research Association Conference 2020.
11. Jones, S., Thompson, J., Perez, M., Smith, M., Anderson, K. and Worsley, M. (2020). So it's like 2K, right?': Technological Supports in the Design of an Athletic Program. Presented at the Annual Meeting of the American Education Research Association Conference 2020.

12. Bar-El, D., Martin, K., Worsley, M. (2017). Makerspace Analysis with Multimodal Learning Analytics. In Proceedings of the 2017 Learning Sciences Graduate Student Conference. Bloomington, IN, USA. pp. 35-37.
13. Fuhrmann, T., Worsley, M. & Blikstein, P. (2016). Eliciting Engineering Expertise from Novices. Paper presented at Constructionism 2016 (C2016). Bangkok, Thailand.
14. Worsley, M. Blikstein, P. Bradford, K, Martin, T, Sipitakiat, A, & Tutiyaaphuengprasert, N. (2016). Constructionism and the Internet of Things. Paper presented at Constructionism 2016 (C2016). Bangkok, Thailand.
15. Bonilla, T. & Worsley, M. (2014). Using Network Analysis to Explore the Role of Status and Reciprocity in Politicians' Voting Behavior. Paper Presented at the Annual American Political Science Association Conference. Washington, D.C., USA
16. Worsley, M. & Blikstein, P. (2014). An Approach for Combining Qualitative Analysis with Learning Analytics to Study Learning Processes in Open-Ended Environments. Paper Presented at the Annual Meeting of the American Education Research Association (AERA). Philadelphia, PA, USA.
17. Worsley, M. & Blikstein, P. (2013). Designing for Diversely Motivated Learners. Paper Presented at the Digital Fabrication and Making In Education Workshop at the 2013 Interactive Design for Children Conference (IDC 2013), New York, NY, USA.
18. Worsley, M. & Blikstein P. (2013). Learning to Paraphrase: Using Paraphrase Detection of Spoken Utterances to Predict Learner Expertise. Paper presented at Annual Meeting of the American Education Research Association. San Francisco, CA, USA.
19. Worsley, M. & Blikstein P. (2012). OpenGesture: A Low-Cost, Easy-to-Author Application Framework for Collaborative, Gesture-, and Speech-Based Learning Applications. Paper Presented at the Annual Meeting of the American Education Research Association (AERA). Vancouver, Canada.
20. Blikstein, P., Safdari. M., & Worsley, M. (2012) Using Dynamic Time Warping and Cluster Analysis to Analyze the Learning of Computer Programming. Paper Presented at the Annual Meeting of the American Education Research Association (AERA). Vancouver, Canada.
21. Blikstein, P., Safdari. M., & Worsley, M. (2012) Using Dynamic Time Warping and Cluster Analysis to Analyze the Learning of Computer Programming. Paper Presented at the 10th Annual International Conference of the Learning Sciences (ICLS). Sydney, Australia.
22. Blikstein, P., & Worsley, M. (2011). Computing What the Eye Cannot See: Educational Data Mining, Learning Analytics and Computational Techniques for Detecting and Evaluating Learning. Paper Presented at the Annual Meeting of the American Education Research Association (AERA). New Orleans, LA, USA.
23. Worsley, M. & Blikstein, P. (2011). Using machine learning to examine learner's engineering expertise using speech, text, and sketch analysis. Paper Presented at the 41st Annual Meeting of the Jean Piaget Society (JPS). San Francisco, CA, USA.
24. Worsley, M. & Blikstein P. (2011). Towards the Development of Learning Analytics: Student Speech as an Automatic and Natural Form of Assessment. Paper Presented at the Annual Meeting of the American Education Research Association (AERA). New Orleans, LA, USA.
25. Worsley, M., & Blikstein, P. (2010). Learning Analytics - Natural Assessments for Constructionist Learning Environments. HSTAR-Cicero Workshop on Learning, Learning Environments and Technologies. Stanford, CA, USA.

Whitepapers and Reports

1. National Academies of Science, Engineering, and Medicine (NASEM) (2024), Scaling and Sustaining Pre-K-12 STEM Education Innovations: Systemic Challenges, Systemic Responses.
2. Worsley, M. (2017). Multimodal analysis. In J. Roschelle, W. Martin, J. Ahn, & P. Schank (Eds.), *Cyberlearning Community Report: The State of Cyberlearning and the Future of Learning With Technology* (pp. 46-50). Menlo Park CA: SRI International.
3. Blikstein, P. & Worsley, M. (2013). *Multimodal Learning Analytics and Assessment of Open-Ended Artifacts*. Bill and Melinda Gates Foundation, Learning Analytics Working Group

Practitioner Venues

1. Worsley, M. (2021). Family-Friendly Teacher Professional Development. ASCD Express.

Invited Talks and Panels

- 2025**
Designing Innovations in Sports Technology, **University of Pennsylvania**
Is this REALLY CS? – Student experiences with innovative CS learning environments, **University of Colorado, Boulder**
- 2024**
Ethical and Inclusive Approaches to Learning Analytics, **University of Texas, El Paso**
Envisioning Learning Futures with Creating AI Workshop, **University of Pennsylvania**
When athletes play around technology-a sporting approach to computing inquiry, **Embodied Underground, University of California, Berkeley**
Computer Scientist? Learning Scientist? Or something else? – **Argonne National Laboratory**
Defining YOUR Learning Sciences – **Learning Sciences Graduate Student Conference Opening Keynote**
- 2023**
Journeys in Computer Science - aka Computing is Everywhere you want it to be, **Chicago Math Circles 2023 Annual Convening**
Empowering Learning Communities through Multimodal Technologies, **Center for Integrative Research in Computing and Learning Sciences 2023 Convening - NSF RETTL PI Meeting**
Designing YOUR Learning Science, **Learning Sciences Graduate Student Annual Conference**,
Artificial Intelligence and Gender Equity in Language Classes, **Northwestern University – University of Tokyo Research Workshop on AI and Culture**
Pens and Pixels: Generative AI in Education Conference, **University of California**
The new generation of AI: Opportunities for Research and the role of ISLS, **International Society of the Learning Sciences (ISLS) Annual Conference**
Some of the Many Layers of Designing for Inclusivity, **Northwestern Kellogg School of Management**
Designing for Inclusivity, **NSF CISE PI Meeting, Georgia Institute of Technology**
Designing Inclusive Learning Environments, **University of California, Irvine**
Bridging Multimodal Technology and Learning, **University of Alabama**
Aprendizagem multimodal e o papel importante de tecnologia, **Columbia University and Itaú Cultural**
- 2022**
Learning Sciences and Technology Design Proseminar, **Stanford University** Exploring Strategies for K-8 Interest Driven CS Education, DUB Seminar, **University of Washington**
- 2021**
AI Innovations for Inclusive Learning and Teaching, AI in Learning: Shaping the Future Conference, **University of Helsinki**
Artificial Intelligence for Expansive and Inclusive Learning, **National Academia of Education**.
Multimodal Interfaces for Equity: Exploring opportunities for more equitable and inclusive learning through multimodal technology, **Stanford University HCI Seminar**
Centering Marginalized Identities in Artificial Intelligence in Education (AIED) – **Diversity, Equity, and Inclusion Panel at the 2021 AIED Annual Conference**.
Multimodal Interfaces and the Learning Sciences - **1st Learning Sciences Brazil Winter School**
Learning Analytics for Collaboration Literacy in Multimodal Spaces - **Engineering Tools for Innovation and Research in Education (EnTIRE) Speaker Series**
Coding and Context – **INFAC Meeting TERC**
Bridging Between Expansive Learning and Multimodal Learning Analytics - **Learning Sciences Research Institute's (LSRI) Speaker Series – University of Illinois, Chicago**
Designing Analytics for Collaboration Literacy and Student Empowerment – **Center for Research on Teaching and Learning – Indiana University**
Reflections on the Challenges and Opportunities for Centering Disability in Making – **Beyond Bits and Atoms Class – Columbia University**
Data in Motion: Putting multimodal tools in the hands of youth – **Administration, Leadership, and Technology Brown Bag Series - New York University**
- 2020**

Multimodal Learning Analytics: Core Commitments and Future Opportunities – **Learning Informatics Seminar - University of Minnesota**

AI and the Future of Learning: Expert Panel Report Webinar – **Center for Integrative Research in Computing and Learning Sciences**

Other Roles for AI in Education: Toward equity, diversity and inclusion in learning – **Northwestern University Series in the Impact of AI – Northwestern University**

Inclusive Making: Designing tools and experiences to promote accessibility and redefine Making – **Physical Therapy and Human Movement Science Speaker Series – Northwestern University**

Collaboration and Ethics in the Learning Sciences Panel – **International Conference of Learning Sciences**

The Broader Impacts of Multimodal Learning Analytics – **AERA Satellite Conference on Educational Data Science - Stanford University**

Ethics and Opportunities with Multimodal Learning Analytics – **AI and Educational Futures Summit – University of Wisconsin, Madison.**

NAEP Mathematics and Accessibility – **Institute for Education Studies**

Redefining Why Coding Matters for Our Kids – **EvanSTEM Code-a-thon**

2019

Opportunities with Learning Analytics – **Darunsikkhalai School of Innovative Learning**

Interdisciplinary Computer Science Education – **National Science Foundation CUE Next Panel – Northwestern University**

Computational (blank) – **International Society for Design and Development in Education Panel on Computational Thinking**

Inclusive Making – **Inclusive Technology Panel – Center for Independent Future's Inclusive Technology Panel**

The Many Layers of Inclusive Learning Spaces - **The Learning Spaces Collaboratory – Northwestern University**

Communication for Change and Social Good in the Digital Age Panel – **InfoSocial Conference - Northwestern University**

1. _____ for all* - Computational Thinking and Computational Action Panel – **CS/LS Symposium – Northwestern University**

Spatial Reasoning in Minecraft – **Multidisciplinary Program in Education Sciences Colloquium – Northwestern University**

2018

Applications of Multimodal Learning Analytics to Collaborative Problem Solving – Introduction to Graduate Studies – **Northwestern University, Computer Science Department**

Applications of Multimodal Learning Analytics to Collaborative Problem Solving: Taking Learning Analytics to School – **University of California, Irvine, School of Education**

Multimodal Learning for Examining Coordination Dynamics in Mathematics – **Coordination Dynamics in Mathematics Workshop – University of California, Berkeley, Graduate School of Education**

Computational Modeling for Learning and Assessment with Multimodal Learning Analytics – **Computational Models for Learning and Assessment Workshop at 2018 Computer Vision and Pattern Recognition Conference Keynote**

2017

Learning Analytics for Active Learning – **Franklin Institute, Sony Higher Education Forum Keynote**

Equitable Making Practices for Informal Learning Environments – **The Michael and Karyn Lutz Center for After School Matters - Chicago Maker Educator Meeting**

Making Sense of Multimodal Learning Analytics Webinar– **Center for Innovative Research in Cyberlearning (CIRCL)**

2016

Cultivating the Fablearn Ecosystem – **Fablearn Hong Kong Keynote**

Programming Pluralism – **University of Colorado, Boulder**

Learning Analytics as a Lens into Engineering Design Cognition – **Northwestern University**

Empowering Design with Technology – **University of Colorado, Boulder, ATLAS Institute**

2015

Engineering Design Cognition: Studies on the Origins and Implications of Students' Design Strategies – **Vanderbilt University**

The Honeymoon's Over: Moving Beyond a Romanticized View of "Making" – **University of California, Los Angeles**

Learning Analytics Unplugged – **Robert H. Smith School of Business**

More Than a Feeling: Using Affect and Pose-based Cues to Intuit Learner Behaviors – **Stanford University**

How to Assess Learning that Matters? Creating Complex Evaluations with Multimodal Data – **Lemann Conference**

Making D-I-Y and the Teacher Revolution – **University of California, Los Angeles, CRESST Conference**

Collecting Data in Classrooms – **Stanford University, Fablearn Conference**

2014

Priming the Pump – A Multimodal Analysis of Hands-on STEM Learning – **Virginia Polytechnic and State University, Engineering Education Seminar**

It's all in the approach - Using Learning Analytics to identify and compare different engineering design strategies in hands-on learning environments – **Arizona State University Computing, Informatics and Design Science Engineering Department**

Making the MOOC Experience Tangible and Diversified – **University of Colorado Boulder, MOOCShop at the International Conference of the Learning Sciences**

Using Multimodal Learning Analytics to Study the Mechanics and Semantics of Effective Learning Strategies – **University of Colorado Boulder, Learning Analytics Workshop at the International Conference of the Learning Sciences**

Multimodal Learning Analytics – **Harvard University, Learning Analytics Summer Institute**

So You Want to be an Engineer? – **Stanford University, Summer Engineering Academy**

Crafting Education's Digital Future(s) – **University of Southern California, Rossier School of Education**

Methods for Leveraging Multimodal Learning Analytics to Study Engineering Design – **Indiana University**

2013

Multimodal Learning Analytics: Techniques for Understanding and Enhancing Student Learning – **Stanford University Computer Science LEAD Program**

Constructionism 2.0 – Reimagining Constructionism through the Lens of Artificial Intelligence - **Massachusetts Institute of Technology Media Lab**

Multimodal Learning Analytics – **Stanford University, Education's Digital Future Seminar**

Taking the Tools of Learning Analytics to the "Wild" – **Columbia University Teacher's College, Learning Analytics Seminar**

Multimodal Learning Analytics: A Future in the Making – **AT&T Labs**

The Making of an Educational Data Scientist – **Society of Learning Analytics Research, Learning Analytics Summer Institute**

Multimodal Learning Analytics – **Society of Learning Analytics Research, Learning Analytics Summer Institute**

Intersecting Computer Science and Education – **Stanford University, Summer Engineering Academy**

Teaching Experience

Undergraduate & Graduate Courses at Northwestern University

Computer Science Education Research in the Community (CS 396/496)

Advanced Multimodal Analysis and Interaction Research (CS 396/496)

Multimodal Learning Analytics and Interaction Analysis

Technology, and Learning (LS 351/451, CS 397/497)

Inclusive Making (LS 309/451, CS 397/497)

Introduction to Human Computer Interaction (CS 330)

Multimodal Learning Analytics (LS 351/451, CS 396/496),

Advanced Multimodal Interfaces (CS 397/497)
Computing and Socioeconomic Mobility (CS 396/496)
Designing Interactive Media & Technology for Learning (LS 307)

Service Experience

Recent Professional Service

- 2024 *Advisory Board, New Venture Schools Fund*
Senior Reviewer, International Conference of the Learning Sciences (ICLS) at ISLS 2024
Reviewer, Journal of the Learning Sciences
- 2023 *Advisory Board, New Venture Schools Fund*
Committee Member, National Academy of Science, Engineering, and Mathematics, PreK-12 STEM Education Innovations
Workshop Chair, Interaction Design and Children Conference
Senior Reviewer, International Conference of the Learning Sciences (ICLS) at ISLS 2023
- 2022 *Advisory Board, New Venture Schools Fund*
Reviewer, 2022 UIST Conference
Advisor, ReSolve Math Study Technical Working Group, MDRC
Reviewer, Cognition and Instruction
Reviewer, Journal of the Learning Sciences
Co-chair, Computer Supported Collaborative Learning CSCL 23
- 2021 *Program Chair, AERA 2022 Division C Section 1e Computer Science*
Reviewer, Institute for Education Sciences
Advisory, Center for Integrative Research in Computing and Learning Sciences
Associate Editor, Journal of Child Computer Interaction
- 2020 *Editorial Board, Multimodal Technologies and Interaction Journal*
Reviewer, Journal of Pre-Engineering Education Research
Reviewer, International Journal of Information and Learning Sciences
Reviewer, Education Researcher
Reviewer, Journal of Computer Assisted Learning
Reviewer, Journal of Computer Science Education
Reviewer, International Journal of Computer-Supported Collaborative Learning
Reviewer, Spencer Foundation Lyle Spencer Research Awards
Guest Editor, International Journal of Child-Computer Interaction
Invited Expert, US Department of Education's AI & The Future of Learning Expert Panel
Committee Member, Institute for Education Studies, National Center for Special Education NAEP Process Data, Technical Working Group
Workshop Organizer, Multimodal Learning Analytics and Interaction Analysis Workshop, International Conference of the Learning Sciences, Nashville, Tennessee

Recent University Service

- 2024 *Mentor, Summer Research Opportunity Program (SROP)*
Mentor, Posner Fellows Program
Member, CS+LS Admissions Committee
- 2023 *Member, Provost's Committee on Generative AI (to present)*
Mentor, Posner Fellows Program
Member, CS+LS Steering Committee (to present)
- 2022 *Faculty Fellow, Cultural and Community Scholars (CCS) (to present)*

Mentor; Summer Research Opportunity Program (SROP)

Mentor; Posner Fellows Program

Member; CS+LS Admissions Committee

2021 *Mentor; Summer Research Opportunity Program (SROP)*
Member; Learning & Technology Advisory Committee (to present)
Member; LS Admissions Committee
Member; CS+LS Admissions Committee
Mentor; NU Garage Activate Program
Member; SESP Equity Committee (to present)
Member; TSB PhD Admissions Committee

2020 *Member; AI@NU Committee (to present)*
Director; Retail Analytics Council Advisory Board
Advisor; NU Garage Black Ignite
Member; TSB PhD Admissions Committee
Member; CS PhD Admissions Committee
Member; CS+LS PhD Admissions Committee

Grants

Principle Investigator

Neilsen Foundation – Black Kids Predict (PI)

Dates: Jan 1, 2025 – Dec. 31, 2025

Amount: \$50,000

Status: Awarded

Motorola Solutions Foundation - Black Kids Predict (PI)

Dates: October 1, 2024 – September 31, 2025

Amount: \$30,000

Status: Awarded

Verizon Foundation – Black Kids Predict (PI)

Dates: May 1, 2024 – April 30, 2025

Amount: \$30,000

Status: Awarded

Jacobs Foundation Research Fellow

Dates: January 1, 2024 – December 31, 2026

Amount: 165,000 CHF

Status: Awarded

Motorola Solutions Foundation - Black Kids Predict (PI)

Dates: October 1, 2023 – September 31, 2024

Amount: \$35,000

Status: Awarded

Spencer Foundation – Developing a Community Based, Culturally-Responsive, and Expansive Computer Science Ecosystem for Chicago and Beyond (PI)

Dates: April 1, 2023 – August 31, 2023

Amount: \$75,000

Status: Awarded

IMC - Black Kids Predict (PI)

Dates: January 1, 2023 – December 31, 2023

Amount: \$75,000

Status: Awarded

Motorola - Black Kids Predict (PI)

Dates: January 1, 2023 – December 31, 2023

Amount: \$12,500 (in kind)

Status: Awarded

Motorola Solutions Foundation - Black Kids Predict (PI)

Dates: October 1, 2022 – September 31, 2022

Amount: \$25,000

Status: Awarded

NSF CAREER: Designing for Learning at the Intersection of Sports Analytics and Physical Computing RET Supplement (PI)

Dates: August 5, 2022 – May 31, 2026

Amount: \$20,000

Status: Awarded

NSF CSForAll: Computational Thinking, Physical Computing and Physical Education REU Supplement (PI)

Dates: August 15, 2022 – July 31, 2023

Amount: \$24,400

Status: Awarded

NSF CAREER: Designing for Learning at the Intersection of Sports Analytics and Physical Computing

Dates: June 15, 2021 – May 31, 2026

Amount: \$532,247

Status: Awarded

NSF CSForAll: Computational Thinking, Physical Computing and Physical Education (PI)

Dates: August 15, 2020 – July 31, 2023

Amount: \$999,684

Status: Awarded

NSF Cyberlearning: Designing and Evaluating a Naturalistic Platform for Collaborative Learning About Spatial Reasonings REU Supplement (PI)

Dates: September 1, 2018 – August 31, 2021

Amount: \$16,000

Status: Awarded

NSF Cyberlearning: Designing and Evaluating a Naturalistic Platform for Collaborative Learning About Spatial Reasonings RET Supplement (PI)

Dates: September 1, 2018 – August 31, 2021

Amount: \$16,000

Status: Awarded

NSF Cyberlearning: Designing and Evaluating a Naturalistic Platform for Collaborative

Learning About Spatial Reasonings (PI)

Dates: September 1, 2018 – August 31, 2022

Amount: \$749,000

Status: Awarded

Sony Classroom Learning Analytics (PI)

Dates: January 1, 2018 – March 31, 2020

Amount: \$250,000

Status: Awarded

Northwestern Daniel I. Linzer Grants for Innovation in Diversity and Equity (PI):**Inclusive Making**

Dates: April 2017 – March 2018

Amount: \$14,000

Status: Awarded

NSF Early-concept Grants for Exploratory Research (EAGER): BIGDATA: Catalyzing Research in Multimodal Learning Analytics (PI)

Dates: October 1, 2015 – September 30, 2019

Amount: \$299,803

Status: Awarded

Co-Principal Investigator**Buffett Institute for Global Affairs Catalyst Grant Award: Achieving Gender Equality through the Language Curriculum**

Dates: September 1, 2022 – August 31, 2024

Amount: \$150,000

Status: Awarded

NSF Collaborative Research: BPC-DP: Culturally Relevant Physical Computing for Sustainability Programs for Native Hawaiian Students

Dates: October 15, 2021 – September 30, 2023

Amount: \$55,000

Status: Awarded

NSF CS4All EAGER: Equitable Computer Science for All Learning Ecosystems: Developing Underserved Students' Computational Making Literacies Through Community-Embedded Out of School Time Programming (co-PI)

Dates: September 1, 2018 – August 31, 2019

Amount: \$223,735

Status: Awarded

Awards

International

2023 Jacobs Research Fellow

2019 International Society for Design and Development in Education Fellow

University

2020 Computer Science Faculty Research Mentor of the Year

2018-2019 Daniel I. Linzer Awards for Faculty Excellence in Diversity and Equity

Advisees

Doctoral

David Bar-El – Learning Sciences (2022)
JaCoya Thompson – Computer Science (2023)
Stephanie Jones – Computer Sciences and Learning Sciences (2024)
Khalil Anderson – Computer Science
Tochukwu Eze – Computer Science
Victoria Chavez – Computer Science and Learning Sciences
Natalie Melo – Computer Science and Learning Sciences
Michael Smith – Computer Science and Learning Sciences
Adia Wallace – Computer Science and Learning Sciences
Khushbu Kshirsagar – Learning Sciences
Sarah Lee – Learning Sciences
Ashley Quiterio – Learning Sciences
Herminio Bodon – Technology and Social Behavior
Pipob Puthipiroj – Computer Science and Learning Sciences
Aaron Ragsdale – Computer Science and Learning Sciences

Doctoral Committee

Mmachi Obiorah – Computer Science (graduated)
Connor Bain – Computer Science – Learning Sciences (graduated)
Kit Martin – Learning Sciences (graduated)
Kayta Borges – Technology and Social Behavior (graduated)
Maitraye Das – Technology and Social Behavior (graduated)
Emily Wang – Technology and Social Behavior (graduated)
Izaiah Wallace – Computer Science
Christina Pei – Learning Sciences
Brian Andres – Learning Sciences
Abir Saha – Technology and Social Behavior

Patents

US 20120239396 A1 – Multimodal Remote Control (09-20-2012)

Language Skills

Portuguese (*Fluency*), French (*Conversational*), Spanish (*Intermediate*)