Erica M. Kleinman

Assistant Research Professor, Ghost Lab Co-Director, Instructor, College of Arts, Media, and Design, Northeastern University
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References Available Upon Request

Education

SEPT 2020 - JUNE 2023
University of California Santa Cruz - *Doctor of Philosophy* - Computational Media
SEPT 2017 - MAY 2020
Northeastern University - *Master of Science* - Computer Science
SEPT 2014 - JUNE 2016
Drexel University - *Master of Science* - Digital Media
SEPT 2009 - MAY 2013
Skidmore College - *Bachelor of Arts* - Film Studies

Positions

JULY 2025 - PRESENT
College of Arts, Media, and Design (Northeastern University) - *Assistant Research Professor*

- Co-Director of the Ghost Lab
- Founding member of EXCITE institute for experiential technologies
- Leading and co-leading research at the intersection of games, learning, and human computer interaction
- Co-advising PhD students
- Teaching graduate and undergraduate courses in Games, HCI, and Research Methods

JULY 2023 - JUNE 2025
Ghost Lab (Northeastern University) - *Postdoctoral Research Associate*

- Overseen by Dr. Casper Harteveld
- Conducted Research in collaboration with students and faculty at the intersection of games, learning, and Human Computer Interaction
- Advised PhD students
- Taught Courses in the Games Program
- Contributed to grant writing efforts
- Worked on Grants funded by NSF

NOVEMBER 2016 - JUNE 2023
GUII Lab (Northeastern University and University of California, Santa Cruz) - *Graduate Research Assistant*

- Advised by Dr. Magy Seif El-Nasr

- Conducted Research in collaboration with students and faculty on Human-Computer Interaction looking at Explainable AI, UX of AI, Learning, Esports and Complex Gameplay, Player and User Modeling, and Interactive Narrative
- Taught as both TA and Grad Student Instructor
- Mentored and Advised junior students
- Worked on Grants funded by NSF, DARPA, and ONR

Awards and Recognition

2026 - COLLEGE OF ARTS MEDIA AND DESIGN SUMMER RESEARCH DEVELOPMENT FELLOWSHIP
2025 - IEEE TOG RECOGNITION FOR FAST, HIGH-QUALITY REVIEWS
2022 - 2023 - UCSC JACK BASKIN & PEGGY DOWNES FELLOWSHIP
2022 - IEEE TOG FAST AND FURIOUS AWARD FOR QUICK, HIGH QUALITY REVIEW TURN AROUND
2020 - FDG2020 EXCEPTIONAL PAPER AWARD
2019 - FDG2019 BEST PAPER NOMINEE
2019 - GDC2019 GAME NARRATIVE REVIEW COMPETITION PLATINUM AWARd
2018 - GDC2018 GAME NARRATIVE REVIEW COMPETITION GOLD AWARD
2016 - DREXEL GRADUATE COLLEGE RESEARCH EXCELLENCE AWARD
2015 - CHIPLAY STUDENT GAME DESIGN COMPETITION RUNNER UP
2014 - 2016 - DREXEL UNIVERSITY DEAN'S FELLOWSHIP
2013 - SKIDMORE COLLEGE BA CUM LAUDE
2010 - 2013 SKIDMORE COLLEGE DEAN'S LIST

External Funding

CO-PI: AI-EMPOWERED REFLECTIVE LEARNING ACROSS THE VIRTUALITY SPECTRUM (NSF)
Casper Harteveld (PI), Erica Kleinman (Co-PI), Eileen McGivney (Co-PI), Seth Cooper (Co-PI), October 2024 - September 2027, $900,000

Publications

BOOK CHAPTERS *2 Chapters*

- *Trotter, M., Gredin, V., **Kleinman, E.**, Wadenholt, G., & Svensson, J. (2026). Decision-Making and Strategic Thinking in Esports. In The Psychology of Esports Performance (pp. 75-95). Routledge.*
- ***NON-AUTHOR CONTRIBUTOR:** Seif El-Nasr, M., Nguyen, T., Canossa, A., Drachen, D. (2021). Sequence Analysis of Game Data. In Game Data Science (pp. 266-305). Oxford University Press.*

JOURNAL PAPERS *9 Papers*

- ***Kleinman, E.**, Agashe, S. S., Jahani, R., Shyne, F. M., Facey, K., McGivney, E., Cooper, S., and Harteveld, C. 2026. Virtual Reality Check: Checking Design Considerations for Reflection in Educational Virtual Reality Escape Rooms with Users. Proc. ACM Hum.-Comput. Interact. 10, 7, Article GAMES026 (November 2026)*
- *Harteveld, C., **Kleinman, E.**, Shirshekar, S., Kosa, M., and Sutherland, S. 2026. Players as Participants: A Review of Human Participants Practices in HCI Games Research. Proc. ACM Hum.-Comput. Interact. 10, 7, Article GAMES057 (November 2026)*
- *Yang, D., **Kleinman, E.**, Harteveld, C., GPT for Games: An Updated Scoping Review (2020-2024). IEEE Transactions on Games.*

- ***Kleinman, E.**, Xu, J., Pfau, J., and Seif El-Nasr, M. 2024. "Trust the Process": An Exploratory Study of Process Visualizations for Self-Reflection in League of Legends. Proc. ACM Hum.-Comput. Interact. 8, CHI PLAY, Article 346 (October 2024), 28 pages.*
- ***Kleinman, E.,** Habibi, R., Yao, Y., Gayle, C., & Seif El-Nasr, M. (2022). " A Time and Phase for Everything"-Towards A Self Regulated Learning Perspective on Computational Support for Esports. Proceedings of the ACM on Human-Computer Interaction, 6(CHI PLAY), 1-27.*
- ***Kleinman, E.,** Shergadwala, M., Teng, Z., Villareale, J., Baryant, A., Zhu, J., Seif El-Nasr, M. (2022). Analyzing Students' Problem-Solving Sequences: A Human-in-the-loop Approach. Journal of Learning Analytics.*
- ***Kleinman E**, Gayle C, and Seif El-Nasr M (2021) "Because I'm Bad at the Game!" A Microanalytic Study of Self-Regulated Learning in League of Legends. Front. Psychol. 12:780234. doi: 10.3389/fpsyg.2021.780234*
- ***Kleinman, E.,** Preetham, N., Teng, Z., Bryant, A., & Seif El-Nasr, M. (2021). " What Happened Here!?" A Taxonomy for User Interaction with Spatio-Temporal Game Data Visualization. Proceedings of the ACM on Human-Computer Interaction, 5(CHI PLAY), 1-27.*
- ***Kleinman, E.**, Karo, K., & Zhu, J. (2019). From Immersion to Metagaming: Understanding Rewind Mechanics in Interactive Storytelling. Entertainment Computing.*

FULL CONFERENCE PAPERS

30 Papers

- *Facey, K., Shyne, F., **Kleinman, E.**, McGivney, E., Harteveld, C., & Cooper, S. (2026, November). Towards Solver-Based Labelling of Player Tactics in Logic Puzzles. In Proceedings of the AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (Vol. 22, No. 1, pp. 54-63).*
- *Troiano, G., Cassidy, M., **Kleinman, E.**, Puttick, G., Harteveld, C., (2026 June) "Are You OK, Dr. Scratch?" Bridging the Gap Between Automated Computational Thinking Metrics and Classroom Realities. In Proceedings of the 25th Annual ACM Interaction Design and Children Conference (pp. 619 - 638)*
- ***Kleinman, E.,** Kim, S., Kim, S,. Lee, H., Kim, J., Kang, D., Park, S., Harteveld, C., Lee, B. (2026, May) "Do I really need this?": Illuminating Challenges in Integrating Computational Training Tools in Esports Coaching. In Proceedings of the CHI Conference on Human Factors in Computing Systems*
- *McGivney, E., Olarinde, O., **Kleinman, E.**, Shyne, F., Facey, K., Jahani, R., Agashe, S., Varma, M., Cooper, S., & Harteveld, C. (2026). Assessing Learning Processes with Multimodal Data in Virtual Reality Learning Environments. Proceedings of the 20th International Conference on the Learning Sciences. 6th Annual Meeting of the International Society of the Learning Sciences. 1907-1811. https://repository.isls.org/handle/1/12861*
- *Issak, A., Narayan, U., Srinivasan, R., **Kleinman, E.**, & Harteveld, C. (2025, June). Kaleidoscope Gallery: Exploring Ethics and Generative AI Through Art. In Proceedings of the 2025 Conference on Creativity and Cognition (pp. 949-963).*
- ***Kleinman, E.**, Jahani, R., McGivney, E., Kosa, M., Cooper, S., Harteveld, C. (2025, May). From Locked Rooms to Open Minds: Escape Room Best Practices to Enhance Reflection in Extended Reality Learning Environments. In Proceedings of the CHI Conference on Human Factors in Computing Systems.*

- *Lee, H., **Kleinman, E.**, Kim, N., Park, S., Harteveld, C., Lee, B. (2025, May). Crafting Champions: An Observation Study of Esports Coaching Processes. In Proceedings of the CHI Conference on Human Factors in Computing Systems.*
- *Harteveld, C., Javvaji, N., Mohaddesi, O., **Kleinman, E.**, Daniels, K., Jackson, D., & Troiano, G. M. (2024, July). RePresent: Enabling Access to Justice for Pro Se Litigants via Co-Authored Serious Games. In Proceedings of the 2024 ACM Designing Interactive Systems Conference (pp. 3225-3242).*
- ***Kleinman, E.**, Habibi, R., Powell, G. B., Reeves, B., Prather, J., & Seif El-Nasr, M. (2024, May). ``Backseat Gaming" A Study of Co-Regulated Learning within a Collegiate Male Esports Community. In Proceedings of the CHI Conference on Human Factors in Computing Systems (pp. 1-14).*
- *Maram, S. S., **Kleinman, E.**, Villareale, J., Zhu, J., & Seif El-Nasr, M. (2024, May). " Ah! I see"-Facilitating Process Reflection in Gameplay through a Novel Spatio-Temporal Visualization System. In Proceedings of the CHI Conference on Human Factors in Computing Systems (pp. 1-19).*
- *Pfau, J., Charan, M., **Kleinman, E.**, & Seif El-Nasr, M. (2024, May). Damage Optimization in Video Games: A Player-Driven Co-Creative Approach. In Proceedings of the CHI Conference on Human Factors in Computing Systems (pp. 1-16).*
- *Yang, D., **Kleinman, E.**, Troiano, G. M., Tochilnikova, E., & Harteveld, C. (2024, May). Snake Story: Exploring Game Mechanics for Mixed-Initiative Co-creative Storytelling Games. In Proceedings of the 19th International Conference on the Foundations of Digital Games (pp. 1-11).*
- *Yang, D., **Kleinman, E.**, & Harteveld, C. (2024, August). GPT for games: A scoping review (2020-2023). In 2024 IEEE Conference on Games (CoG) (pp. 1-8). IEEE.*
- ***Kleinman, E.**, Villareale, J., Shergadwala, M. N., Teng, Z., Bryant, A., Zhu, J., & El-Nasr, M. S. (2023, April). " What else can I do?" Examining the Impact of Community Data on Adaptation and Quality of Reflection in an Educational Game. In Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems (pp. 1-12).*
- ***Kleinman, E.**, Villareale, J., Shergadwala, M., Teng, Z., Bryant, A., Zhu, J., Seif El-Nasr, M. (2022). Towards an Understanding of how Players Make Meaning from Post-Play Process Visualizations. ICEC 2022.*
- ***Kleinman, E.**, Shergadwala, M., Seif El-Nasr, M. (2022). Kills, Deaths, and (Computational) Assists: Identifying Opportunities for Computational Support in Esport Learning. 2022 CHI Conference on Human Factors in Computing Systems.*
- *Partlan, N., **Kleinman, E.**, Howe, J., Ahmad, S., Marsella, S., and Seif El-Nasr, M. (2021). Design-Driven Requirements for Computationally Co-Creative Game AI Design Tools. Foundations of Digital Games.*
- ***Kleinman, E.**, Chojnacki, S., and Seif El-Nasr, M. (2021). The Gangs All Here: How People Used Games to cope with COVID19 Quarantine. CHI 2021.*
- *Carstensdottir, E., **Kleinman, E.**, Williams, R., and Seif El-Nasr, M. (2021). "Naked and on fire":Examining Player Agency Experiences in Narrative-Focused Gameplay. CHI 2021.*
- ***FDG 2020 EXCEPTIONAL PAPER RECIPIENT:** **Kleinman, E.**, Ahmad, S., Teng, Z., Bryant, A., Nguyen, T. H. D., Harteveld, C., & Seif El-Nasr, M. (2020). "And then they Died": Using Action Sequences for Data-Driven, Context-Aware Gameplay Analysis. Foundations of Digital Games.*
- *Seif El-Nasr, M., **Kleinman, E.** (2020). Data-Driven Game Development: Ethical Considerations. Foundations of Digital Games.*

- *Jemmali, C., **Kleinman, E.**, Bunian, S.,Almeda, M.V., Rowe, E., & Seif El-Nasr, M. (2020). MAADS: Mixed-Methods Approach for the Analysis of Debugging Sequences of Beginner Programmers. Technical Symposium on Computer Science Education.*
- *Almeda, M.V., **Kleinman, E.**, Jemmali, C., Ithier, C., Rowe, E., & Seif El-Nasr, M. (2020). Labeling Debugging in May's Journey Gameplay. Technical Symposium on Computer Science Education.*
- ***Kleinman, E.**, Carstensdottir, E., & Seif El-Nasr, M. (2019). A Model for Analyzing Diegesis in Digital Narrative Games. International Conference on Interactive Digital Storytelling.*
- *Ahmad, S., Bryant, A., **Kleinman, E.**, Teng, Z., Nguyen, T. H. D., & Seif El-Nasr, M. (2019) Modeling Individual and Team Behavior through Spatio-Temporal Analysis. Annual Symposium on Computer-Human Interaction in Play.*
- *Carstensdottir, E., **Kleinman, E.**, & Seif El-Nasr, M. (2019) Player Interaction in Narrative Games: Structure and Narrative Progression Mechanics. Foundations of Digital Games.*
- ***FDG 2019 BEST PAPER NOMINEE:** Harteveld, C., **Kleinman, E.**, Rizzo, P., Schouten, D., Nguyen, T.H., Liberty, S., Kimbrough, W., Fombelle, P., & Seif El-Nasr, M. (2019) Teamwork and Adaptation in Games (TAG): A Survey to Gauge Teamwork. Foundations of Digital Games.*
- ***Kleinman, E.**, Carstensdottir, E., & Seif El-Nasr, M. (2018) Going Forward by Going Back: Re-defining Rewind Mechanics in Narrative Games. Foundations of Digital Games.*
- *Partlan, N., Carstensdottir, E., Snodgrass, S., **Kleinman, E.**, Smith, G., Harteveld, C., & Seif El-Nasr, M. (2018) Exploratory Automated Analysis of Structural Features of Interactive Narrative. Artificial Intelligence and Interactive Digital Entertainment Conference.*
- ***Kleinman E.**, Fox V., Zhu J. (2016) Rough Draft: Towards a Framework for Metagaming Mechanics of Rewinding in Interactive Storytelling. International Conference on Interactive Digital Storytelling.*

WORKSHOP PAPERS, POSTERS, WIPS, DEMOS *14 Papers*

- ***Kleinman, E.** and Harteveld, C. 2026. Esports or Esportsification? Prompting Further Discussion of Esports Definitions. In Companion Proceedings of the Annual Symposium on Computer-Human Interaction in Play (CHI PLAY Companion '26), November 2-5, 2026, York, United Kingdom. ACM, New York, NY, USA, 4 pages.*
- *McGivney, E., Olarinde, O., & Kleinman, E. (2026). "How Are You Solving That?": Improving Learning in Virtual Reality With a Reflective AI Agent. ISLS 2026 General Proceedings. 195-199. https://2026.isls.org/proceedings/*
- *Yang, D., **Kleinman, E.**, & Harteveld, C. (2026, April). Bridging Pedagogy and Play: Introducing a Language Mapping Interface for Human-AI Co-Creation in Educational Game Design. In Proceedings of the Extended Abstracts of the 2026 CHI Conference on Human Factors in Computing Systems (pp. 1-6).*
- *Olarinde, O., McGivney, E., **Kleinman, E.**, Shyne, F., Facey, K., Cooper, S., & Harteveld, C. (2025). Reflecting in-Action: Improving Learning in Extended Reality with AI-empowered Reflection. Connected Learning Summit, Cambridge, MA.*
- *Shyne, F., Agashe, S., Jahani, R., Facey, K., **Kleinman, E.**, Cooper, S., Harteveld, C., & McGivney, E. (2025). Multi-Modal Escape Room for Reflective Learning. Foundations of Digital Games, Vienna, Austria. (Non-archival)*

- ***Kleinman, E.,*** *and Harteveld, C. 2024. The Untapped Potential of Escape Rooms as Gamified Research Environments. In Companion Proceedings of the Annual Symposium on Computer-Human Interaction in Play (CHI PLAY Companion '24), October 14–17, 2024, Tampere, Finland. ACM, New York, NY, USA, 4 pages.*
- *Ebrahimi, A., Cox, J.,* ***Kleinman, E.****, & De Schutter, B. (2024, May). Hidden Heroes: A thematic analysis of a game jam designed around authentic stories. In Proceedings of the 19th International Conference on the Foundations of Digital Games (pp. 1-4).*
- ***Kleinman, E.,*** *Lynn, S., Loyall, B., Seif El-Nasr, M., (2023). Towards a Human-in-the-Loop System for Authoring Game AI using Behavior Languages, In The First Workshop on Human-AI Interaction through Play, Foundations of Digital Games.*
- ***Kleinman, E.****, Seif El-Nasr, M.. (2021). Using Data to "Git Gud": A Push for a Player-Centric Approach to the Use of Data in Esports, In EHPHCI: Esports and High Performance HCI Workshop, 2021 CHI Conference on Human Factors in Computing Systems.*
- ***Kleinman, E****., Seif El-Nasr, M. (2020). Interactive Visualization For Strategy Acquisition In Esports Spectatorship. SEEGames Workshop, 2020 CHI Conference on Human Factors in Computing Systems. (Non-archival)*
- *Jemmali, C.,* ***Kleinman, E.****, Bunian, S., Almeda, M. V., Rowe, E., & Seif El-Nasr, M. (2019) Using Game Design Mechanics as Metaphors to Enhance Learning of Introductory Programming Concepts. Foundations of Digital Games.*
- *Partlan, N., Carstensdottir, E.,* ***Kleinman, E.****, Snodgrass, S., Harteveld, C.,Smith, G., Matuk, C., Sutherland, S. C., & Seif El-Nasr, M. (2019) Evaluation of a Graph-Based Representation for Interactive Narrative. Foundations of Digital Games.*
- *Carstensdottir, E.,* ***Kleinman, E.****, Seif El-Nasr, M. (2017) Towards an Interaction Model for Interactive Narratives. International Conference on Interactive Digital Storytelling.*
- ***CHIPLAY 2015 STUDENT GAME DESIGN COMPETITION RUNNER UP:*** *Baranoski, J.,* ***Kleinman, E.****, Wang, Z., Tucker, M., Ahnert, J., Schell, J., Doshi, R., Rank, S., & Zhu, J. (2015) Matsya: A Cultural Game of Flow and Balance. Annual Symposium on Computer-Human Interaction in Play.*

Invited Talks and Presentations

- *Chukoskie, L.,* ***Kleinman, E.****, (2026) Roundtable Discussions: Gaming and Esports Positive Synergy with Education and Research. Augmented World Expo.*
- ***Kleinman, E.****, Shergadwala, M., Seif El-Nasr, M. (2021) "Tell me Why I Keep Dying": A Qualitative Study of User Requirements for AI Assistants for Esports. Esports Conference, University of California, Irvine.*
- *Ahmad, S.,* ***Kleinman, E.****, & Seif El-Nasr, M. (2020) New Methodology for Interactive Behavior Analytics. Game Intelligence and Informatics Workshop, PAKDD.*
- ***Kleinman, E.****, Seif El-Nasr, M. (2020) A Detailed Look at Users' Experience through Interactive Visualizations of their Data. Games User Research Virtual Summer Camp.*

Teaching Experience

- Instructor: GSND 6320 (Northeastern) - Psychology of Play (Spring 2026)
- Instructor: GAME 2750 (Northeastern) - Games Criticism and Theory (Spring 2026)

- Instructor: GSND 5130 (Northeastern) - Mixed Research Methods for Games (Fall 2025, Fall 2026)
- Instructor: GAME 2500 (Northeastern) - Foundations of Game Design (Summer 2 2024, Spring 2025)
- Instructor: GSND 5111 (Northeastern) - Graduate Seminar (Fall 2024)
- Instructor: GAME 3700 (Northeastern) - Rapid Idea Prototyping (Spring 2024)
- Instructor: GAME 251 (UCSC) - Games User Research (Winter 2023)
- Teaching Assistant: HCI 271 (UCSC) - HCI Capstone (Spring 2022)

Supervision, Mentoring, and Advising Experience

- Supervising: Gefei (Godfrey) Yang - Visiting Scholar, GSND Graduate, NEU
- Co-Advising: Uttkarsh Narayan - PhD Student, Interdisciplinary Design and Media, NEU
- Co-Advising: Daijin Yang - PhD Student, Interdisciplinary Design and Media, NEU
- Mentoring: Alayt Issak - PhD Student, Interdisciplinary Design and Media, NEU
- Mentoring: Sai Siddartha Maram - PhD Student, Computational Media, UCSC
- Mentoring: Stefany Arevalo - Masters Student, Computational Media, UCSC
- Mentoring: Jason Xu - Undergraduate, Computational Media, UCSC
- Mentoring: Derusha Baskaran - Masters Student, HCI, UCSC
- Mentoring: Christian Gayle - Masters Student, Games and Playable Media, UCSC
- Mentoring: Yichen Yao - Masters Student, Games and Playable Media, UCSC
- Mentoring: Yuanzhu Wu - Masters Student, Games and Playable Media, UCSC
- Mentoring: Sara Chojnacki - Masters Student, Computer Science, Northeastern University

External Service

ORGANIZATION AND LEADERSHIP

- ACM CHIPlay Annual Symposium on Computer-Human Interaction in Play
    - Student Game Design Competition Co-Chair (2026)
    - Student Game Design Competition Co-Chair (2025)
    - Associate Chair (2025, 2026)
    - Transparency and Ethics in Game Data Workshop General Chair (2024)
- ACM CHI Conference on Human Factors in Computer Systems
    - Associate Chair (2027)
    - Associate Chair (2026)
    - Assistant to the SCs of Usability and UX (2020 and 2021)
- Foundations of Digital Games
    - Track Chair (Game Analytics and Visualization) (2024)
- AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment
    - Esports Analytics Workshop Co-Organizer (2022)
- IEEE Conference on Games (COG)
    - Associate Chair (2023 and 2025)
- IEEE Transactions on Games (TOG)

- Associate Editor (2026-Present)

PRIMARY PEER REVIEW VENUES

- ACM CHI Conference on Human Factors in Computer Systems
- ACM CHIPlay Annual Symposium on Computer-Human Interaction in Play
- International Journal of Human-Computer Interaction
- International Conference of Interactive Digital Storytelling
- Foundations of Digital Games
- IEEE Conference on Games
- IEEE Transactions on Games
- Entertainment Computing
- Computers in Human Behavior