Jeremy E. Block ⓘD

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¶Profile:

updated 01/2024

Interested in human motivation and how information presentation can encourage curiosity, my research is focused on the use of information visualization as a storytelling device to describe rationales automatically. Most recently, I have been using interaction provenance in analysis tools to automatically summarize and generate sensemaking narratives for different user types. This requires a mix of data science to prepare interaction data, calculate metrics of interest, and engineer large language model prompts for the generation of reports. My background is a diverse mix of visual arts (animation, visual effects, and game development), communications science (storytelling, systems thinking, education), human-centered computing (user experience design, data visualization, human subjects research), and explainable artificial intelligence (establishing trust, feature importance, AI ethics).

¶Education:

Ph.D. Student at **The University of Florida,** Gainesville, Florida; **Human-Centered Computing** | Present
Herbert Wertheim College of Engineering | Advisor: Eric D. Ragan
B.S. Ithaca College, Ithaca, New York; **Emerging Media** | May 2018
Roy H. Park School of Communications (Magna Cum Laude)

¶Publications

- **J. E. Block**, S. Esmaeili, E. D. Ragan, J. R. Goodall, and G. D. Richardson, "The Influence of Visual Provenance Representations on Strategies in a Collaborative Hand-off Data Analysis Scenario," in *IEEE Transactions on Visualization and Computer Graphics*, vol. 29, no. 1, pp.1113-1123, Jan. 2023, doi: 10.1109/TVCG.2022.3209495.
- M. Nourani, C. Roy, **J. E. Block**, D. R. Honeycutt, T. Rahman, E. D. Ragan, and V. Gogate. 2021. Anchoring Bias Affects Mental Model Formation and User Reliance in Explainable AI Systems. In *26th International Conference on Intelligent User Interfaces (IUI '21), April 14–17, 2021, College Station, TX, USA*. ACM, New York, NY, USA, 17 pages. https://doi.org/10.1145/3397481.3450639 [1]
- Sina Mohseni, **Jeremy E. Block**, and Eric Ragan. 2021. Quantitative Evaluation of Machine Learning Explanations: A Human-Grounded Benchmark. In *26th International Conference on Intelligent User Interfaces* (*IUI '21*). Association for Computing Machinery, College Station, TX, USA, 22–31. DOI:https://doi.org/10.1145/3397481.3450689
- P. E. Dickson, **J. E. Block**, G. N. Echevarria, and K. C. Keenan. 2017. *An Experience-based Comparison of Unity and Unreal for a Stand-alone 3D Game Development Course*. In Proceedings of the 2017 ACM Conference on Innovation and Technology in Computer Science Education (ITiCSE '17). ACM, New York, NY, USA, 70-75. DOI: https://doi.org/10.1145/3059009.3059013

¶Workshops/Juried Work

- **Jeremy E. Block**, Yu-Peng Chen, Abhilash Budharapu, Lisa Anthony, Bonnie Dorr. 2023. Summary Cycles: Exploring the Impact of Prompt Engineering on Large Language Models' Interaction with Interaction Log Information. In *Proceedings of the 4th Workshop on Evaluation and Comparison of NLP Systems (Eval4NLP '23)*, November 1, 2023, Bali, Indonesia. IJCNLP-AACL ACM, Stroudsburg, PA, 85--99. https://eval4nlp.github.io/2023/img/proceedings.pdf

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[1] This paper won Honorable Mention at IUI'21

- **Block, J.E.**; Bookner, I.; Chu, S.L.; Crouser, R.J.; Honeycutt, D.R.; Jonas, R.M.; Kulkarni, A.; Paredes, Y.V.; Ragan, E.D. Preliminary Perspectives on Information Passing in the Intelligence Community. *Analytics* 2023, 2, 509-529. https://doi.org/10.3390/analytics2020028
- Chiradeep Roy, Mahsan Nourani, Donald R. Honeycutt, **Jeremy E. Block**, Tahrima Rahman, Eric D. Ragan, Nicholas Ruozzi, and Vibhav Gogate. 2021. Explainable activity recognition in videos: Lessons learned. *Applied AI Letters* 2, 4 (2021), e59. DOI: https://doi.org/10.1002/ail2.59
- **J. E. Block** and E. D. Ragan, "Micro-entries: Encouraging Deeper Evaluation of Mental Models Over Time for Interactive Data Systems," *2020 IEEE Workshop on Evaluation and Beyond - Methodological Approaches to Visualization (BELIV)*, Salt Lake City, UT, USA, 2020, pp. 38-47, doi: 10.1109/BELIV51497.2020.00012.
- M. Nourani, D. R. Honeycutt, **J. E. Block**, C. Roy, T. Rahman, E. D. Ragan, and V. Gogate. 2020. Investigating the Importance of First Impressions and Explainable AI with Interactive Video Analysis. In Extended Abstracts of the 2020 CHI Conference on Human Factors in Computing Systems (CHI EA '20). Association for Computing Machinery, New York, NY, USA, 1–8. DOI: https://doi.org/10.1145/3334480.3382967

¶Research Experience

Graduate Research Assistant | Fall 2019 - Present
University of Florida: Computer & Information Science & Engineering
- Demonstrated and evaluated a natural language pipeline that generated communicative sensemaking summaries.
- Evaluated a visualization design with expert users to elicit feature improvements for reporting analysis interactions.
- Explored visualization techniques for provenance data summarization, communication, and optimization.
- Experimentally tested the impacts of provenance representations on data analysis tasks.
- Managed a small design team to identify design solutions that prevent heatstroke deaths in vehicles.
- Designed experimental study looking to improve trust parity from first impressions of black-box systems.
- Published conceptual mental model evaluation methodology capturing user's reflections over time.
- Iterated the development of an interface for novel research on first impressions and trust in AI.
- Conducted literature review on automated report generation techniques for provenance data.

Graduate Research Intern | Summer 2022
Summer Conference for Applied Data Science (SCADS); Raleigh, NC
- Coordinated scheduling and team leadership for an interdisciplinary qualitative research project focused on understanding how analysis occurs in the intelligence community
- Studied information-passing behavior in the intelligence community by interviewing experts and managing a team of 5 graduate students
- Collected and categorized hundreds of relevant papers for a literature review.

Research Assistant | Spring 2017
Ithaca College: Computer Science Department
- Examined over 100 papers on assessing project-based learning effectiveness in messy learning scenarios with undergraduate classes.
- Met weekly with additional researchers to distill findings and clarify goals; results were unpublished.

Research Assistant | Summer 2015
Ithaca College: Computer Science Department
- More than 400 hours researching literature relating to pedagogy and Game Engines.
- Transposed a 60-hour curriculum and notes from Unity Game Engine to Unreal Engine.

- Authored and presented an academic paper in proceedings to Information Technology in Computer Science Education (ITiCSE) 2017 conference, Bologna, Italy.
- Research and recommendations resulted in a new game engine standard for the department.

¶Teaching Assistantships

Ithaca College Computer Science Department

Spring 2018 - **COMP325: Human-Computer Interfaces**
- Mentored student projects, providing one-on-one feedback and technical support. Often many were building web Interfaces from popular frameworks, but students were not limited to one technology.
- Assessed student aptitude through weekly quizzes.

Fall 2017, Spring 2018 - **COMP106: Introduction to Multimedia Web Programing**
- Taught Canvas and Javascript methods to 30 non-computer science majors.
- Assessed student aptitude through weekly quizzes.
- Enhanced student comprehension through stack trace, metaphor & practice.
- Provided on-the-fly scaffolding for students to create algorithms for complex game mechanics.

Fall 2015 - **COMP172: CS2: Object-Oriented Programming (Java Development)**
- Assessed quizzes weekly for comprehension, completeness, and understanding.
- Constructed metaphors to assist in student understanding.

¶Mentoring / Service

Energy Coach | Spring 2022 - Present
Community Weatherization Coalition in Gainesville, FL
- Conduct energy tune-ups and advise renters and homeowners on efficiency options for their residences.

Farm Volunteer | Fall 2019 - Present
Siembra Farm in Gainesville, FL
- Introduced and involved ~50 others to participate in regenerative agricultural practices.
- Attend weekly workdays to prepare fields and distribute seasonal, organic, locally grown food.

Compost / Gardening Volunteer | Summer 2021 - Spring 2022
Ethnoecology Student Garden in Gainesville, FL
- Built community through traditional gardening, weekly socials, and introductions to diverse flora.
- Offered lectures on the optimal composting procedures and ways to identify compostable materials.

Assistant Gardening Coordinator | Fall 2019 - Spring 2021
Student Compost Cooperative in Gainesville, FL
- Organized weekly student meetups to discuss how and what to compost at local gardens.
- Directed video productions and developed graphics for online learning initiatives during pandemic.
- Organized multiple volunteer days with more than 20 attendees to prepare fields and share mission.
- Installed solar video capture device and associated documentation to capture facility usage data.

Undergraduate Student Mentor | Summer 2020; Fall 2021; Spring 2023
Research Experiences for Undergraduates (REU) - Online and in person
- Advised 3rd-year undergraduate students on proper research methods and software engineering practices to explore provenance visualization techniques and develop a novel research design.
- Advised 4th-year undergraduate student on developing a robust experimental design, study procedure, and research project timeline.

Founder, Mentor, and Advisor | Fall 2017 - Spring 2019
Park Post - Ithaca College Roy H. Park School of Communications in Ithaca, NY
- Founded a technical mentorship community for college students pursuing post-production passions.
- Coordinated 8 alumni Skype Q&A sessions for students.
- Helped organize and present workshops on post-production topics ranging from building lower thirds and graphics packages to scripted SVG and gif animations with Adobe creative suite tools.
- Mentored undergraduate peers weekly to deconstruct complex visual effects or build assets together. Offered mini-projects to encourage tool exploration.
- Attend at least once a year as a special guest to provide an alumnus perspective and describe how post-production experience still supports my work as a researcher.

Lead Coordinator | Fall 2016 - Spring 2018
Connecting Elders with Technology - Various locations in Ithaca, NY
- Scheduled weekly hour-long "Genius Bar" help sessions with volunteers at retirement communities.
- Debunked common questions related to the internet and its real-world applications for seniors.
- Mentored replacement coordinator to keep the organization active after leaving Ithaca, NY.

Lead Coordinator | Fall 2014 - Spring 2017
Media Club - Various school and activity center locations in Ithaca, NY
- Media Club is an after-school enrichment program that provides students with hands-on knowledge about how media influences society.
- Volunteered weekly in afterschool enrichment activities to discuss media literacy and production with various age groups, transitioning between elementary, middle, and high school students each semester.
- Topics include game algorithm analysis with middle schoolers, documentary filmmaking workshops for elementary school students, journalism ethics for high schoolers, and newsletter design and production with underprivileged youth.

¶Notable Media Projects

Communications Director | Summer 2020
Director, Producer, Editor, and motion graphics director - "So you want to Compost at the SCC?"
- Coordinated the remote delivery of instructional videos with multimedia support from local gardeners and novice media production students. A full series of videos are planned.

Mobile Lead | Spring 2018
Emerging Media Project - "QR-late"
- Worked with a team of 3 to develop a digital sync slate for Independent Filmmakers. Desktop application partners with a local database of on-set notes with captured footage automatically via QR codes and computer vision to organize files and add metadata.
- Developed local session variable architecture and downloadable web app for offline use on mobile devices. A demonstration and talk of the project can be found at https://youtu.be/DvOvIJVvX_Q

Programming Lead and Project Manager | Spring 2017
Emerging Media Project - "Space Escape VR"
- Used SCRUM methods to manage a team of 4 over a 3-month department-wide project timeline.
- Developed and delivered a 10-minute Puzzle-based VR "Escape Room."
- Modeled and textured low-poly assets with Maya and Hypershade, then integrated interactions within Unreal Engine 4 scripting.
- Managed a pilot rollout with 13 invited users for playtesting on HTC Vive and collected feedback.

Video Production Specialist | Spring 2016
University of Canterbury, NZ: International Relations Department
- Produced walking tour videos to introduce the campus to prospective international students.
- Directed and managed international student talent and production team of 9. I cross-culturally interfaced with International Relations Staff to ensure project vision, plan, and on-time deliverables.
- Captured, animated, edited, and packaged 8 instructional videos using Adobe suite. One can be found at https://youtu.be/XtP5x14jI40

¶Awards/Certifications
- First IMAGE Mentorship training program cohort; Spring 2023
- Florida Hacks with IBM Hackathon 3rd place winner December 2021
- L3 Harris Corporation Communication Graduate Fellowship 2021, 2022, 2023
- Graduate School Preeminence Award; January 2019
- SSI Specialty Diver Certification; July 2018
- Roy H. Park School Dean's List 2014, 2015, and 2018
- Roy H. Park Scholar full-tuition merit-based scholarship; 2014 - 2018
- Apple Service Fundamentals Certification; May 2018
- Inducted to National Communication Honor Society Lambda Pi Eta; Spring 2016
- Inducted to Oracle Honor Society; Fall 2015
- PADI Open Water Scuba Diving Certification; Jan 2015
- Eagle Scout with Silver Palm Distinction; Dec 2013