HAI-GEN 2025: 6th Workshop on Human-AI Co-Creation with Generative Models

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Abstract

Generative Artificial Intelligence (GAI) models capable of complex tasks are revolutionizing areas previously considered to define humanity, such as creativity, design, and knowledge work. Research reports that Human-GAI co-creation processes can enhance creativity and even foster a sense of empowerment. A key innovation is the intent-based outcome specification, where users define desired results through natural language, sketches, or gestures, thus shifting control from users to AI models. This paradigm enables new forms of co-creation while presenting challenges in creating effective and safe outcome specifications.

This workshop aims to investigate the design, implementation, and evaluation of intent-based co-creative experiences that boost human creativity in work, play, and education across text, images, audio, code, and video. Key questions focus on how creativity support can guide generative AI development and how to leverage generative models for positive user experiences. By uniting researchers and practitioners from Human-Computer Interaction (HCI) and AI, the workshop seeks to deepen understanding of human-AI co-creative interactions and explore opportunities and challenges in developing meaningful and safe generative systems.

CCS Concepts

• **Human-centered computing** → **Human computer interaction (HCI)**; *Interaction design*; • **Computing methodologies** → **Artificial intelligence**; • **Applied computing** → *Arts and humanities.*

Keywords

Generative modeling, artificial intelligence, generative design, user experience, co-creation, collaboration, creativity

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1 Description

The widespread availability of Generative Artificial Intelligence (GAI)-based models capable of performing highly complex tasks is expected to elicit a paradigm shift in creativity, design, and knowledge work [1, 2, 4, 5, 13]. Human-GAI co-creative processes have been shown to enhance human creativity [3, 14], with several studies highlighting a sense of human empowerment, where individuals described feeling like they have "a second mind" [16]. At the same time, generative models have enabled a radically new way for people to interact with computing technology by allowing them to specify *what they want* rather than *how it should be produced*. Users are able to create specifications of the kinds of outputs they desire in natural language through sketches and gestures, novel UI controls, or other means. In a recent article, Nielsen [11] called this form of interaction *intent-based outcome specification*. Intent-based outcome specification shifts control over how computation is performed from the user towards the generative AI models, enabling new forms of co-creativity and co-creation while also posing new challenges of how to best support users with creating outcome

specifications that yield the desired results and are effective and safe to use.

The central questions of our workshop are: How do we design, implement, and evaluate intent-based co-creative experiences that enhance human creativity in work, play, and education across a range of media types (text, images, audio, code, and video)? How will user needs for creativity-support drive the development of generative AI algorithms? How can the capabilities of generative models be leveraged for positive and effective co-creative user experiences? Building on our experience in these areas [6–10, 12, 14, 15, 17], the goal of our workshop is to bring together researchers and practitioners from the domains of HCI & AI to establish a joint community to deepen our understanding of the human-AI co-creation process and interaction, and to explore the opportunities and challenges of creating meaningful, effective and safe user experiences for intent-based generative systems. Submissions are encouraged, but not limited to, the following topics:

- Human-AI co-creation across modalities and platforms (web, VR, AR) that support the creation of physical and/or digital artifacts
- Co-Creativity in education and skill development
- Use cases & novel applications for co-creativity
- Intent inference and intent-based co-creation.
- Techniques, methodologies, & algorithms that enable new user experiences and interactions with generative models
- Usage patterns, design guidelines, and design principles for intent-based outcome specification that support effective and safe use
- Issues of governance, privacy, ownership, and attribution of human-AI co-created content
- Security, including forensic tools and approaches for deep fake detection
- Evaluations of human-AI co-creative processes and quality metrics of human-AI co-created content
- User research on needs, perceptions, and trust of human-AI co-creative systems, tools & artifacts
- Lessons learned from computational art & design and generative design
- Potential risks and harms of working with generative models and generated content, and strategies to detect or mitigate those harms

2 Previous History

All workshop proceedings were published in CEUR.

- **HAI-GEN 2024** (https://hai-gen.github.io/2024). The 5th HAI-GEN workshop was held in conjunction with IUI 2024. We held a hybrid workshop with 90+ registered participants and an average attendance of 50-60 participants during the workshop (including about 15 remote participants). The workshop was the largest workshop at IUI 2024. We had 14 paper presentations, posters, and demo sessions, and 1 keynote.
- **HAI-GEN 2023** (https://hai-gen.github.io/2023). The 4th HAI-GEN workshop was held in conjunction with IUI 2023. We held an online workshop with approximately 50 participants, 8 paper presentations, and 1 keynote.
- **HAI-GEN 2022** (https://hai-gen.github.io/2022). The 3rd HAI-GEN workshop was held in conjunction with IUI 2022. We held an online workshop with approximately 54 participants, 8 paper presentations, and 1 keynote.
- **HAI-GEN 2021** (https://hai-gen2021.github.io). The 2nd HAI-GEN workshop was held in conjunction with IUI 2021. We held an online workshop with approximately 45 participants, 12 paper presentations, and 2 keynotes.
- **HAI-GEN 2020** (https://hai-gen2020.github.io). The 1st HAI-GEN workshop was held in conjunction with IUI 2020. As IUI 2020 was canceled due to COVID-19, we held an online workshop with approximately 35 participants, 7 paper presentations, and 2 keynotes.

3 Organizers

Osnat Mokryn (contact author) is the Social Cognition and Networks (SCAN) lab Director in the Information Systems Department at the University of Haifa. She researches cognitive processes in complex systems, with a recent emphasis on human-AI intelligent systems. She applies multidisciplinary methods to identify governing principles and to study highly complex systems using real-world data. Dr. Mokryn is the IUI Steering Committee Chair-Elect and a Senior Member of the Association of Computing Machinery (ACM). Her research is supported by the Israel Science Foundation (ISF), The Israeli Ministry of Science and Technology, and industry partners.

Orit Shaer (contact author) is a Professor and co-Chair of Computer Science at Wellesley College. She founded and directs the Wellesley College Human-Computer Interaction (HCI) Lab. Her research focuses on novel human-computer interaction for the future of work and learning, including human-AI collaboration, tangible and embodied interaction, and mixed-reality interfaces. Dr. Shaer is a Senior Member of the Association of Computing Machinery (ACM), and a recipient of several NSF and industry awards including the prestigious NSF CAREER Award. https://cs.wellesley.edu/~oshaer/, *oshaer@wellesley.edu*

Werner Geyer is a Principal Research Scientist, ACM Distinguished Member, and Chief Scientist of Human-Centered AI at IBM Research in Cambridge, MA, where he is co-lead for the Human-Centered Trustworthy AI strategy. He has held various roles as co-chair at ACM RecSys, including general chair, tutorial chair, and workshop chair. He has been co-organizer of HAI-GEN since 2020. His recent research interests include the use of generative AI in business settings and understanding how to effectively design AI-assisted workflows to augment peoples' abilities. https://wernergeyer.com, *werner.geyer@us.ibm.com*

Mary Lou Maher is a Professor and Director of the Human-Centered Computing Lab in the College of Computing and Informatics at UNC Charlotte. Her research in computational creativity extends genetic algorithms, analogical reasoning, and, more recently, deep learning models to automate the generation of creative artifacts to enhance human creativity. She has served on the organizing committees for workshops at CHI and IUI on interaction with generative AI. http://maryloumaher.net, *m.maher@uncc.edu.*

Justin D. Weisz is a Research Manager at IBM Research in Yorktown Heights, NY. He is a co-lead for the Human-Centered Trustworthy AI strategy, and he leads the Human-AI Collaboration team. He was a co-organizer of HAI-GEN 2021-2023 and is the PI of a project that is exploring enterprise use cases of generative AI technologies. https://research.ibm.com/people/justin-weisz, *jweisz@us.ibm.com*.
Daniel Buschek is a Professor of Mobile Intelligent User Interfaces at the University of Bayreuth, Germany. His group works at the intersection of Human-Computer Interaction and AI, exploring interaction with models for text and images to shape the future of AI tools in a human-centered way. https://www.hciai.uni-bayreuth.de/, *daniel.buschek@uni-bayreuth.de*.
Lydia B. Chilton is an Assistant Professor in the Computer Science Department at Columbia University. For ten years she was a leader in the crowdsourcing research space of HCI, now she breaks down problems for a combination of people and AI to solve. She organized the first CHI Workshop on Crowdsourcing and Human Computation, which had over 100 attendees. She has also led the two-day crowdsourcing workshop and hackathon CrowdCamp three times. https://www.cs.columbia.edu/~chilton/, *chilton@cs.columbia.edu*

4 Workshop Program Committee

Table 1 lists the Program Committee members.

Sebastian Gehrmann, Google	Nikolas Martelaro, Carnegie Mellon University
Katy Gero, Harvard University	Tamir Mendel, New York University
Kenneth Arnold, Calvin University	John Chung, Midjourney
Hyo Jin Do, IBM Research	Molly Feldman, Oberlin College
Andrew Kun, University of New Hampshire	Erin Solovey, WPI
Yiren Liu, University of Illinois at Urbana-Champaign	Brian Magerko, Georgia Institute of Technology
Jeba Rezwana, Towson University	Anuschka Schmitt, The London School of Economics
Kazjon Grace, The University of Sydney	

Table 1: Program Committee

5 Workshop Program

The workshop (https://hai-gen.github.io/2025/) was organized in the form of a **mini conference** with two keynote speakers, paper presentations, discussion sessions, and a demo session. Our keynote speakers were Prof. Dr. Giulio Jacucci and Prof. Marianna Obrist (UCL).

Giulio Jacucci is a Professor in the Department of Computer Science at the University of Helsinki. His research focuses on human-computer interaction, particularly multimodal interaction, interactive intent modeling, and mixed reality, driving innovation in applications related to information discovery and well-being. In his talk, he engaged participants with his recent work on Hybrid and Affective Interactions in the GenAI-XR Convergence.

Marianna Obrist is a Professor of Multisensory Interfaces in the Department of Computer Science at University College London (UCL) and Deputy Director (Digital Health) at the UCL Institute of Healthcare Engineering. Her research explores the role of touch, taste, and smell as interaction modalities in human-computer interaction (HCI). Her talk on multisensory experiences challenged us to explore new directions and consider innovative domains for co-creativity.

We accepted seven papers and two demos covering multiple thematic areas. Three papers propose agentic frameworks for co-creation, while two explore code co-creation, either with agentic or visual chatbot builders. Additionally, two papers focus on user perceptions—one examines AI attribution in the workplace, and the other explores storytelling community members' interactions with covert and overt AI agents. Another paper investigates co-creation with tangible materials, and one introduces an interactive tool for generating evaluation criteria for LLM-as-a-judge.

Spotlight Topic: Agents & Agency in Human-AI Co-Creation. Agency is the capability of acting independently and exerting power or authority. Recent advances in agentic AI have pushed generative AI beyond mere inference with textual prompts. Instead, AI agents can now perform complex tasks autonomously through (rudimentary) planning and tool use. We asked all authors to provide a short position statement on Agents & Agency in Human-AI Co-Creation, even if their submitted work was not about the spotlight topic. During a special discussion session, the following questions were discussed:

- Enhancing Human Agency. How can AI be designed to enhance human agency rather than supplant it? What features or interaction designs support human agency by making the AI a collaborator rather than a controller?
- Conceptualizing Agency. How can we define and differentiate "agency" when applied to AI versus humans? How do perceptions of agency in AI affect user trust and reliance? Ethical and Societal Implications. What ethical frameworks are best suited for managing the balance between AI and human agency? In situations where AI has apparent "agency," who is ultimately accountable for decisions, particularly when outcomes are adverse?
- Agency and Collaboration. What interaction designs facilitate a collaborative sense of agency between humans and AI? How does shared agency between AI and human teams evolve over time with increased interaction?

References

[1] Ajay Agrawal, Joshua S Gans, and Avi Goldfarb. 2023. Do we want less automation? *Science* 381, 6654 (2023), 155–158.
[2] David De Cremer, Nicola Morini Bianzino, and Ben Falk. 2023. How Generative AI Could Disrupt Creative Work. *Harvard Business Review* (April 2023). https://hbr.org/2023/04/how-generative-ai-could-disrupt-creative-work Accessed: 2023-08-22.
[3] Anjali R. Doshi and Oliver P. Hauser. 2024. Generative AI enhances individual creativity but reduces the collective diversity of novel content. *Science Advances* 10, 28 (2024), eadn5290. https://doi.org/10.1126/sciadv.adn5290 Epub 2024 Jul 12.
[4] Tyna Eloundou, Sam Manning, Pamela Mishkin, and Daniel Rock. 2023. Gpts are gpts: An early look at the labor market impact potential of large language models. *arXiv preprint arXiv:2303.10130* (2023).

[5] Morgan R Frank, David Autor, James E Bessen, Erik Brynjolfsson, Manuel Cebrian, David J Deming, Maryann Feldman, Matthew Groh, José Lobo, Esteban Moro, et al. 2019. Toward understanding the impact of artificial intelligence on labor. *Proceedings of the National Academy of Sciences* 116, 14 (2019), 6531–6539.

[6] Toshali Goel, Orit Shaer, Catherine Delcourt, Quan Gu, and Angel Cooper. 2023. Preparing Future Designers for Human-AI Collaboration in Persona Creation. In *Proceedings of the 2nd Annual Meeting of the Symposium on Human-Computer Interaction for Work (CHIWORK '23)*. Association for Computing Machinery, New York, NY, USA, Article 4, 14 pages. https://doi.org/10.1145/3596671.3598574

[7] Toshali Goel, Orit Shaer, Catherine Delcourt, Quan Gu, and Angel Cooper. 2023. Preparing Future Designers for Human-AI Collaboration in Persona Creation. In *Proceedings of the 2nd Annual Meeting of the Symposium on Human-Computer Interaction for Work (CHIWORK '23)*. Association for Computing Machinery, New York, NY, USA, Article 4, 14 pages. https://doi.org/10.1145/3596671.3598574

[8] Jessica He, Stephanie Houde, Gabriel E Gonzalez, Darío Andrés Silva Moran, Steven I Ross, Michael Muller, and Justin D Weisz. 2024. AI and the Future of Collaborative Work: Group Ideation with an LLM in a Virtual Canvas. In *Proceedings of the 3rd Annual Meeting of the Symposium on Human-Computer Interaction for Work*. 1–14.

[9] Michael Muller, Jessica He, and Justin Weisz. 2024. Workplace Everyday-Creativity through a Highly-Conversational UI to Large Language Models. In *ACM CHI Conference on Human Factors in Computing Systems*.

[10] Michael Muller, Stephanie Houde, Gabriel Gonzalez, Kristina Brimijoin, Steven I Ross, Dario Andres Silva Moran, and Justin D Weisz. 2024. Group Brainstorming with an AI Agent: Creating and Selecting Ideas. In *International Conference on Computational Creativity*.

[11] Jakob Nielsen. 2023. AI: First New UI Paradigm in 60 Years. *Nielsen Norman Group* (18 06 2023). https://www.nngroup.com/articles/ai-paradigm/

[12] Michal Rinott and Orit Shaer. 2024. Temporal Aspects of Human-AI Collaborations for Work. In *Proceedings of the 3rd Annual Meeting of the Symposium on Human-Computer Interaction for Work (CHIWORK '24)*. Association for Computing Machinery, New York, NY, USA, Article 8, 7 pages. https://doi.org/10.1145/3663384.3663397

[13] Anuschka Schmitt, Krzysztof Z Gajos, and Osnat Mokryn. 2024. Generative AI in the Software Engineering Domain: Tensions of Occupational Identity and Patterns of Identity Protection. *arXiv preprint arXiv:2410.03571* (2024).

[14] Orit Shaer, Angelora Cooper, Osnat Mokryn, Andrew Kun, and Hagit Ben Shoshan. 2024, forthcoming. AI-Augmented Brainwriting: Investigating the use of LLMs in group ideation. In *Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems (CHI '24)*. Association for Computing Machinery, New York, NY, USA.

[15] Maddalena Torricelli, Mauro Martino, Andrea Baronchelli, and Luca Maria Aiello. 2024. The role of interface design on prompt-mediated creativity in Generative AI. In *Proceedings of the 16th ACM Web Science Conference*. 235–240.

[16] Qian Wan, Siying Hu, Yu Zhang, Piaohong Wang, Bo Wen, and Zhicong Lu. 2024. " It Felt Like Having a Second Mind": Investigating Human-AI Co-creativity in Prewriting with Large Language Models. *Proceedings of the ACM on Human-Computer Interaction* 8, CSCW1 (2024), 1–26.

[17] Justin D Weisz, Jessica He, Michael Muller, Gabriela Hoefer, Rachel Miles, and Werner Geyer. 2024. Design Principles for Generative AI Applications. In *Proceedings of the CHI Conference on Human Factors in Computing Systems*. 1–22.