# CREAI 2024 - Preface to the Third Workshop on Artificial Intelligence and Creativity

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### Abstract

In recent years, Artificial Intelligence (AI) has gained increasing popularity in the area of art creation, by demonstrating its great potential. Research in this topic has developed AI systems able to generate creative outputs in fields such as music, painting, games, design and scientific discovery, either autonomously or in collaboration with humans. Therefore, AI also helped to analyze and study the mechanisms of creativity from a broader perspective: from the socio-anthropological to psychological, as well as cognitive impact of the autonomous creative processes of artificial intelligence. These advances are leading to new opportunities research perspectives, while also posing challenging questions related to authorship, integrity, bias and evaluation of AI artistic outputs. CREAI, the international workshop on AI and creativity, tries to address these research lines and aims to provide a forum for the AI community to discuss problems, challenges and innovative approaches in the various sub-fields of AI and creativity.

## 1. Background and Motivations

Artificial Intelligence has become widespread in a large array of different domains: in the area of art creation, AI has gained increasing popularity by demonstrating its great potential. Recently, AI showed a certain degree of creativity in painting, composition, writing and design, but it also helped to analyze and study the mechanisms of creativity from a broader perspective to better understand the impact of the autonomous creative processes of artificial intelligence. These advances are leading to new opportunities research perspectives, while also posing challenging questions related to aspects such as authorship, integrity, bias and evaluation of AI artistic outputs.

This workshop aims to collect and bridge the gap between different technologies and most recent advances in the area of creative AI in terms of the enabling creation, analysis and understanding technologies. CREAI aims to analyze the relationships between AI and artistic creativity from a broad perspective.

Topics of interests include but are not limited to:

- AI role in understanding human creative processes

- AI systems able to either assist or produce artistic outputs
- Cognitive intelligence and learning for music composing, performing and matching
- Design of AI systems for human creativity through collaboration and co-creation
- AI and cognitive aspects in human-robot interaction
- Resources such as ontologies, knowledge graphs, textual corpora, annotated audio, video, or other content, about creative products (e.g. music, poetry, etc.)
- Music classification and music similarity
- Cultural creative ecosystems and social creativity involving AI systems
- Evaluation methodologies of AI artistic outputs, and creativity in AI systems
- Cultural, social and educational impacts of AI on creativity
- Ethical issues raised by creative AI systems (authorship, integrity, bias...)
- Neuroscience, cognitive science and psychology for AI on creativity

## 2. Accepted Papers

The program provides a good overview among the different topics related to the area of AI and creativity. Moreover, the program will be further enriched through a keynote given by Luc Steels, research professor at Royal Flemish Academy of Science (KVAB), Brussels. The title of the keynote will be "What is the price of human creativity?".

The accepted papers range from the evaluation and implementation of methodologies of AI artistic outputs, to cultural, social and educational impacts of AI on creativity, and also to ethical issues raised by generative AI systems.

In total, 14 contributions were accepted at CREAI 2024 (all included in the proceedings):

1. Alexander Varlamov, Daria Diatlova and Egor Spirin - *Image watermarking with a large number of unique messages*
2. Alberto Sanchez-Acedo, Alejandro Carbonell-Alcocer, Pasquale Cascarano, Shirin Hajahmadi, Giacomo Vallasciani, Manuel Gertrudix and Gustavo Marfia - *The influence of audiovisual elements on the realism of generative AI videos: the case of Sora*
3. Antonio Laverghetta Jr., Simone Luchini, Averie Linnell, Roni Reiter-Palmon and Roger Beaty - *The creative psychometric item generator: a framework for item generation and validation using large language models*
4. Elio Musacchio, Lucia Siciliani, Pierpaolo Basile and Giovanni Semeraro - *Adapting Large Language Models to Narrative Content*
5. Imke van Heerden and Anil Bas- - *A Perspective on Literary Metaphor in the Context of Generative AI*
6. Jens Johannsmeier and Sebastian Stober - *Hybrid Symbolic-Waveform Modeling of Music – Opportunities and Challenges*
7. Lorenzo Tribuiani, Luca Giuliani, Allegra De Filippo and Andrea Borghesi - *Expert-MusiComb: Injective Domain Knowledge in a Neuro-Symbolic Approach for Music Generation*
8. Michele Braccini, Allegra De Filippo, Michele Lombardi and Michela Milano - *Swarm Intelligence: A Novel and Unconventional Approach to Dance Choreography Creation*

9. Nicolas Lazzari and Valentina Presutti – *Tempo estimation from symbolic annotations with periodic functions*
10. Shraddha Pawar, Savita Bhat, Ganesh Prasath and Shirish Karande - *AI Writers and Critics: An Exploratory Study on Creative Content Generation and Evaluation by Large Language Model*
11. Silvia Garzarella, Lorenzo Stacchio, Pasquale Cascarano, Allegra De Filippo, Elena Cervellati and Gustavo Marfia - *Preserving and Annotating Dance Heritage Material through Deep Learning Tools: A Case Study on Rudolf Nureyev*
12. Stephen James Krol, Abhinav Sood and Maria Teresa Llano - *From Simple to Complex: Extending the Generative Capabilities of Attribute-Based Latent Space Regularization through AR-VAE-Diffusion*
13. Victor De Marez, Thomas Winters and Ayla Rigouts Terryn - *THInC: A Theory-Driven Framework for Computational Humor Detection*
14. Yi-Chun Chen and Arnav Jhala - *Collaborative Comic Generation: Integrating Visual Narrative Theories with AI Models for Enhanced Creativity*

## 3. Program Committee

As a final remark, the program co-chairs would like to thank all the members of the Program Committee (listed below), as well as the organizers of the ECAI 2024 - 27TH European Conference on Artificial Intelligence[1].

- Roberto Balestri, *University of Bologna*
- Pierpaolo Basile, *University of Bari*
- Andrea Borghesi, *University of Bologna*
- Michele Braccini, *University of Bologna*
- Amilcar Cardoso, *University of Coimbra*
- Filippo Carnovalini, *University of Padova*
- Pasquale Cascarano, *University of Bologna*
- Antonio Chella, *University of Palermo*
- Yi-Chun Chen, *North Carolina State University*
- Jacopo de Berardinis, *King's College London*
- Luca Giuliani, *University of Bologna*
- Imke van Heerden, *King's College London*
- Vijay Jaisankar, *International Institute of Information Technology Bangalore*
- Jens Johannsmeier, *University of Magdeburg*
- Stephen Krol, *Monash University*
- Nicolas Lazzari, *University of Bologna*
- Paola Mello, *University of Bologna*
- Martin Molan, *University of Bologna*

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[1]https://www.ecai2024.eu/

- Cataldo Musto, *University of Bari*
- Silvan Peter, *Johannes Kepler University Linz*
- Antonio Roda, *University of Padova*
- Andrea Roli, *University of Bologna*
- Marco Sanna, *University of Sassari*
- Lucia Siciliani, *University of Bari*
- Lorenzo Stacchio, *University of Macerata*
- Gennaro Vessio, *University of Bari*