


Editorial

Artificial Intelligence in Participatory Environments: Technologies, Ethics, and Literacy Aspects

Theodora Saridou * and Charalampos A. Dimoulas * 

Multidisciplinary Media and Mediated Communication (M3C) Research Group, School of Journalism & Mass Communications, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece

* Correspondence: saridout@jour.auth.gr (T.S.); babis@eng.auth.gr (C.A.D.)

Abstract

While Artificial Intelligence (AI) approaches date back more than 60 years, there is no doubt that in the last 4 years, we have entered the era of AI. The advanced capabilities of Generative AI (GenAI) and Large Language Models (LLMs) have noticeably reshaped multiple sectors, becoming a driving force in participatory environments. Recent developments in Machine/Deep Learning (ML/DL) and Natural Language Processing (NLP) have enabled the introduction of tools and applications integrated into various professional fields. Areas ranging from education and media to art, tourism, and food science incorporate AI technologies to optimize established workflows, facilitate change, enhance creativity, and foster interaction. The current Special Issue includes nineteen multidisciplinary research works exploring AI in participatory environments, primarily focusing on technologies, ethics, and literacy aspects. Employing diverse methodologies, the research identifies various uses of AI along with the critical ethical and legal risks and challenges they entail. Concerns about inaccuracy, algorithmic bias, data infringements, and the potential erosion of transparency and interpretability need to be addressed in every phase of the design and implementation of AI technologies. Co-creative human-in-the-loop processes and human judgment need to be further strengthened and supported through digital/AI literacy initiatives. In this regard, effective regulatory frameworks, inclusive institutional strategies, and targeted training programs can ensure responsible and trustworthy AI use with a balance between technological evolution and human oversight.

Keywords: artificial intelligence; ethics; media; education; digital literacy; AI literacy; algorithmic journalism; participatory journalism; regulatory framework; machine/deep learning; datasets

1. Introduction

During the past few decades, Artificial Intelligence (AI) has significantly impacted a wide range of industries and professional fields. Although the concept is not novel, since it dates to the mid-20th century, the advancements in Machine/Deep Learning (ML/DL) and Natural Language Processing (NLP) technologies have recently transformed almost every aspect of human activity. Participatory environments in areas such as education, journalism, communication, art, tourism, and nutrition science have incorporated tools and applications to exploit the driving power of AI and facilitate several parts of established workflows [1–13]. Over the last decade, exponential technological progress has occurred, coupled with major breakthroughs in DL architectures and training algorithms, facilitating



Received: 16 March 2026

Accepted: 9 April 2026

Published: 15 April 2026

Copyright: © 2026 by the authors.

Licensee MDPI, Basel, Switzerland.

This article is an open access article distributed under the terms and conditions of the [Creative Commons Attribution \(CC BY\) license](https://creativecommons.org/licenses/by/4.0/).

computationally intensive tasks, such as audio and video processing automations, semantically enhanced authoring of shared media, multimodal storytelling, documentation, and management [14–22]. As an outcome, advancements also emerged in the news and media domains, progressing algorithm-assisted content authentication and disinformation prevention techniques, automating drone and data journalism services, and more [23–32]. Thus, AI techniques increasingly play a considerable role in living, learning, working, and co-situating in collaborative settings [33–38]. Among other aspects, participatory environments are of paramount importance for sharing, co-annotating, and validating the exchanged information and its metadata, thereby increasing accuracy and trustworthiness while also driving the production of ground-truth datasets (which fuel AI) [14,16,37]. In this vein, the utilization of such algorithmic approaches and technologies offers significant benefits for society. However, the consideration of arising risks, legal concerns, and critical challenges formulates the necessary framework to foster ethical, responsible, and trustworthy integration of AI [39–43].

The adoption of AI in higher education mainly focuses on successfully utilizing such tools within university curricula to align pedagogical needs with professional aspirations and improve creativity, production speed, and technical comprehension, even for students without specialized expertise [44–52]. Research findings indicate that students' willingness to engage with these tools is positively influenced by the perceived impact on their future careers. Students' general perception of technology utility and their digital literacy skills are also significantly associated with the acceptance of AI [44,49–52]. Since this relationship notably varies across diverse academic disciplines, universities can support AI integration through tailored, knowledge-based strategies that enhance effective training, hands-on approaches, and the implementation of smart systems for the promotion of collective working environments and multidisciplinary literacy [44,49–51]. In this context, the integration of participatory tools such as gamification and serious games offers a novel approach to addressing multiple literacy needs within higher education. Bridging individual skills development with collaborative engagement facilitates immersive experiences that increase students' learning and comprehension ability [52–60]. As industry becomes increasingly competitive, big tech providers are vying to promote their solutions and establish dominance in the GenAI and LLM markets. However, while technological advancements occur at a rapid pace, regulatory, ethical, and literacy considerations tend to lag behind, struggling to keep up with the AI hype and the complexities it entails. Therefore, a multidisciplinary approach is essential to address the various perspectives that emerge from different fields, requiring interdisciplinary attention to ensure that non-technological interventions can keep pace with these advancements.

This multifaceted approach and support are considered crucial for effective integration of AI technologies in a broad spectrum of professional fields. In journalism, for example, AI adoption is currently characterized as early and experimental, driven mainly by personal curiosity than by formalized organizational strategies or institutional policies [61–72]. Journalists utilize such technologies primarily to optimize the workflow and support their daily tasks (i.e., transcription, data processing, and video editing); hence, this integration is often self-directed and individualized [1,65–67]. Beyond internal efficiency, GenAI is also used by media organizations to reinforce audience engagement through tools such as AI news anchors, chatbots, and personalized recommendation systems that foster interactive storytelling and improve accessibility [1,39,72]. At this point, AI-driven advanced monitoring frameworks can further enhance comprehension of the audience's behavior by employing innovative technological solutions (i.e., mouse- and eye-tracking) along with social sciences methods to analyze the complex dynamics of news consumption and media impact [73–77]. Looking forward, the industry is moving toward synergies between media

organizations, journalists, and AI producers to establish hybrid editorial environments that balance automation with human moderation and embrace the democratic role of journalism [78–82].

However, the adoption of AI is challenged by potential socio-ethical risks, including emotional dependency and the reproduction of cultural and linguistic biases that mirror the social and cultural contexts of the developers [83–87]. Moreover, the potential loss of transparency, accuracy, and human editorial judgment is considered critical [44–51,61,65,72], while algorithmic biases, data privacy infringements, and the proliferation of misinformation or deceptive content underscore the need for resilient, adaptable governance that prioritizes incident response and social inclusion [45,65,66,82,88,89]. A fundamental tension between traditional regulatory frameworks and the fast technological evolution points in the direction of inclusive co-creation processes engaging marginalized stakeholders to help mitigate bias [81,82,90]. Achieving a balanced approach requires strong governance structures and human oversight that could ensure secure, responsible, and harmless use of AI [51,82,89–95]. Consequently, enhancing digital, media, and AI literacy is vital for shaping a deeper understanding for all actors involved and equipping individuals with the critical skills needed to effectively integrate these technologies into daily routines [49,51,52,61–66,72,73].

The current Special Issue enlightens the above perspectives through conceptual, empirical, and case study contributions, discussing AI use in participatory environments, such as higher education, journalism and media, urban art, and tourism, emphasizing diverse technological, ethical, and literacy aspects.

2. Contributions

The current Special Issue aimed at advancing understanding across the aforementioned multidisciplinary fields, inviting researchers to contribute featured works on AI techniques, ethics, education and literacy needs, legal concerns, and regulatory frameworks in diverse collaborative environments. A total of nineteen (19) contributions (C_i , $i = 1 \dots 19$) were published within this Special Issue, elaborating on the technologies, ethics, and literacy aspects of AI in participatory environments. The present section outlines the conducted works and their research outcomes.

The first paper explores the transformative role of AI in facing global food shortages and facilitating sustainability in food production. Focusing on Stephen Hawking's warnings regarding superintelligence, Lugo-Morin (Contribution 1) discusses how the advanced technological capabilities could address food vulnerability and, at the same time, preserve cultural diversity and environmental viability. The author highlights cases where, for example, AI tools are used to predict the shelf-life of specific products, allowing for the optimization of supply chains and the reduction in waste or enabling personalized nutritional solutions through analyzing genetic profiles and dietary preferences. After critically analyzing the potential significant risks and socioeconomic challenges posed by an AI that exceeds human intelligence (such as algorithmic biases, privacy infringements, and power concentration), the paper points towards the critical need for ethical frameworks that ensure transparency and fairness.

The second paper focuses on the integration of AI tools in higher education, studying universities' efforts to successfully include these technologies in their curricula. Vázquez-Parra et al. (Contribution 2) examine how university students' perceptions and acceptance influence the effective adoption of such tools. The study applies the validated instrument "Perception of Adoption and Training in the Use of Artificial Intelligence Tools in the Profession" to a sample of Mexican students, aiming to help educational institutions design strategies that align with professional aspirations and pedagogical needs. The results indicate that the perceived impact of AI on one's future profession and a positive general

perception of the tools significantly and positively affect students' attitude toward adoption and training. Finally, the findings emphasize differences in the relationship between perceived impact and attitude across different academic disciplines.

The third paper deals with graffiti as a multi-disciplinary social behavior and explores its interaction with the urban fabric by using GenAI to simulate the integration of street art into building façades. Shih (Contribution 3) uses a "three-skin" conceptual framework, where the original façade acts as the first skin, the remodeled façade as the second, and the newly generated AI graffiti as the third. The methodology employs image-based generative processes utilizing inputs such as plain-text descriptions, renderings of scaled 3D prototype models, and real-world photographs. The results indicate that AI models can successfully predict the distribution, style, and altitude of graffiti, and that the reinterpretation of the urban context through AI can merge graphic partitions into new polygons and enable cross-gap creative layouts. Finally, the findings suggest that generative graffiti can be used by AI-based virtual governance to facilitate the implementation of preventive urban measures.

The fourth paper focuses on the socio-technical dynamics of Artificial Intelligence Companions (AICs), specifically on user interactions with platforms like Replika 9.35.1. To thoroughly examine the dynamics involved, Kouros and Papa (Contribution 4) follow a qualitative approach that includes unstructured interviews, online ethnography within channels and communities (Reddit, Discord, and Facebook), autoethnography, and discursive interface analysis. The results indicate that AICs provide a unique "backstage" setting in Goffmanian terms, offering a safe environment where users can express themselves and explore hidden aspects of their identity without the fear of being judged. Although AICs can enhance emotional well-being, the study highlights the potential ethical and privacy risks (such as the lack of data protection, the algorithmic biases, and the emotional dependency), stressing the need for a balanced approach and more robust ethical frameworks.

The fifth paper investigates the relationship between university students' general attitudes toward AI and AI ethics and their media and digital literacy skills. Through an online survey, Saklaki and Gardikiotis (Contribution 5) analyze relationships between general AI attitudes, ethical concerns (transparency, fairness, and accountability), and distinct types of literacy. The findings show that participants have predominantly moderate and positive attitudes toward AI, with a clear preference for accountable and transparent AI use. The study also finds that digital literacy (the ability to navigate the digital landscape) is positively associated with AI acceptance, whereas media literacy (the ability to critically engage with media) is linked to more negative attitudes and higher ethical demands. The study thus emphasizes that the design of pedagogical approaches should take into account both AI literacy in the university communities and the concerns about potential risks, aiming to equip students with critical skills for safe use.

The sixth paper presents a methodological approach that aims to improve AI fairness by incorporating a training component on AI bias into the co-creation and participatory design process with vulnerable and marginalized stakeholder groups. Slesinger et al. (Contribution 6) emphasize the importance of the appropriate design and implementation of training in co-creation to ensure a more inclusive approach within the "inaccessible domain of technical expertise", especially for those most at risk of being adversely affected by AI technologies. As part of the MAMMOth project, the authors conduct six workshops in Spain and Greece and online, introducing a module that utilizes an inquiry-based learning process to empower participants from marginalized groups with common understanding of the topic. The results indicate that participants in the design process can contribute to the shaping of the user and research requirements for an AI bias mitigation developer toolkit. The authors suggest that, in addition to being compliant to the European Union Artificial Intelligence Act (EU AI Act), this approach has to facilitate genuine social inclusion.

The seventh paper focuses on higher education students' perceptions of the use of GenAI tools within a university communication course. Aiming to explore how future professionals perceive the usability, ethical implications, and effectiveness of the tools, Matsiola, Lappas, and Yannacopoulou (Contribution 7) employ a qualitative approach conducting semi-structured interviews with fourth-year students of Communication and Digital Media. Within the framework of a participatory training process, the students were interviewed after completing a course project during which they used GenAI tools (such as ChatGPT and Leonardo.ai) to create digital content and video tutorials. The findings indicate an improvement in comprehension and application of these technologies and an enhancement in creativity and production speed, even for participants with no technical expertise. However, the paper identifies significant concerns regarding ethical challenges, especially for misinformation, deception, and data privacy issues.

The eighth paper explores how the regulatory landscape is shaped to address the significant challenges posed by the rapid advancements of GenAI technologies. Following a multi-step research process, Bodini (Contribution 8) aims to introduce a resilience-focused regulatory framework that emphasizes adaptability, swift incident response, and recovery mechanisms to mitigate potential harm associated with GenAI technologies. Specifically, the author conducts a comprehensive literature review and a comparative analysis of divergent global regulatory approaches in the United States, United Kingdom, China, and the EU, and a thematic analysis of key themes related to regulation. Furthermore, the Roberts methodology is utilized to draw parallels between GenAI and other complex global issues (such as climate change and nuclear weapons) to evaluate the levels of consensus and management capabilities. The results indicate that traditional regulatory frameworks may not be sufficient to meet all the unique, fast-evolving challenges posed by GenAI in contrast to a more resilient, adaptable approach.

The ninth paper introduces a big data-driven approach to measuring and analyzing the tourist destination image (TDI) of the city of Kastoria, Greece, using user-generated content from the TripAdvisor platform. Yannacopoulou and Kallinikos (Contribution 9) conduct a metadata analysis of comments and photos using Convolutional Neural Networks for object recognition and Python-based NLP (TextBlob) for sentiment analysis. The content is then categorized into five themes depending on the focus of interest (monument, activity, self, other person, and unknown). The study highlights notable differences between user-assigned scores and AI-extracted sentiment, often due to the difficulty of AI tools to interpret linguistic nuances and biases in less common languages like Greek. Overall, the paper suggests that AI and big data can provide valuable information for a better understanding of global tourism dynamics and allow more tailored marketing and communication strategies.

The tenth paper focuses on the use of AI in Greek journalism and examines journalists' and academics' perceptions regarding the potential benefits, risks, and ethical challenges. Through a series of in-depth semi-structured interviews, Kalfeli and Angeli (Contribution 10) identify key themes and patterns. The results reveal an early, experimental adoption of AI tools in the field, mainly due to economic and linguistic constraints, limited resources, and inadequate training infrastructure. Although participants consider such technologies valuable for the facilitation of daily tasks, they express caution about the potential erosion of core journalistic values (such as transparency and accuracy) and the enhancement of algorithmic bias and data infringements, especially in the case of AI-generated images. The study findings also stress the need for the prioritization of actionable measures, such as implementing AI literacy programs and establishing ethical guidelines.

The eleventh paper also discusses the applications and implications of AI in journalism, critically reflecting on the concept of “hype” within the severe sustainability crisis of the profession. In this vein, Spyridou and Ioannou (Contribution 11) employ political economy framework to analyze AI adoption in journalism through the lens of the power mechanisms, the material conditions, the business imperatives, and the forms of control and support established by laws and regulations. The authors propose the concept of “alien intelligence” for decision-making processes, which are designed by non-journalism professionals and cannot adequately relate to journalistic judgment based on the values of relevance, impartiality, accountability, transparency, analysis, social empathy, and advocacy. The study thus suggests a top-down process of human–machine collaboration, where synergies between media organizations, journalists, and AI producers will embrace the civic and democratic role of journalism.

The twelfth paper explores the utilization of gamification and serious games to address the challenges of Speech Emotion Recognition (SER) data collection and AI literacy among professionals and non-professionals in journalism. Siantanidou et al. (Contribution 12) develop “J-Plus”, an innovative gamified application, which comprises three discrete modules (i.e., a serious game, a news anchor simulation, and an emotional diary), facilitating a novel approach to the acquisition of emotional speech. The application was evaluated through both a quantitative survey and a qualitative assessment by an expert group to measure effectiveness, engagement, and skill development. The results indicate that gamified features are considered effective for increasing motivation to practice emotional speech and that the application successfully fosters digital literacy and AI comprehension. Overall, the paper advocates for the creation of collaborative environments through crowdsourcing tactics that combine individual desire and collective participation.

The thirteenth paper examines the transformative influence of AI on Greek local journalism, focusing on how journalists perceive its potential to enhance quality while upholding the core principles of ethics and integrity. Palla and Kostarella (Contribution 13) study regional organizations using semi-structured interviews with local media industry stakeholders (including editors, editors-in-chief, and journalists) and an abductive thematic analysis. The results indicate that AI tools are used in the local newsrooms for workflow optimization, mainly through transcription, spell-checking, and data processing, although in an early and experimental way, motivated more by individual curiosity and less by formalized strategies. At the same time, journalists express their caution due to potential risks, such as algorithmic biases, misinformation, and the loss of critical thinking. The paper thus emphasizes how crucial it is to incorporate AI into journalistic practices in ways that respect ethical standards and maintain human oversight to ensure trustworthiness and accountability.

The fourteenth paper investigates the cultural bias in Large Language Models (LLMs) focusing on how their countries of origin and the linguistic dominance in the training data influence the social values, attitudes, and stereotypes they reproduce. Dokic, Pisker, and Radisic (Contribution 14) employ a comparative analysis using the World Value Survey Wave 7 questionnaire to interview—in their native languages—four culturally diverse models from the United States, China, Russia, and the United Arab Emirates. The responses were analyzed by calculating the Euclidean distance to be compared with the actual survey results from populations in different countries. The findings confirm both the provision of culturally and linguistically biased answers according to the specific socio-cultural contexts of LLM’s developers and the digital dominance of English-language training materials. Furthermore, the study highlights a form of cultural dominance driven by the Latin-script data (even in non-Western regions) and a mirroring of the legal and social restrictions established in the countries of origin.

The fifteenth paper sheds light on the role of knowledge-based strategies and institutional governance in the way students comprehend legal and ethical dimensions of AI. By conducting an online survey, Oncioiu and Bularca (Contribution 15) highlight knowledge as a lens through which technology is interpreted, since re-examined, questioned, and refined learning process seems to allow for a more nuanced understanding of what AI use entails. The findings also reveal the fundamental role of institutional governance, since the integration of transparency, fairness, and accountability into daily academic life fosters students' ability to responsibly navigate AI systems. Overall, the paper points toward strong, conscious, and well-articulated governance frameworks, within which universities will invest on organizational values and facilitate contexts of collective reflection on the implications of AI, through educational experiences that cultivate individual and collective responsibility for the use of technology.

The sixteenth paper explores the adoption of AI technologies in media organizations, analyzing the reflections, challenges, and opportunities as perceived by Greek journalists across various sectors. Triantafyllou, Panagopoulos, and Kapos (Contribution 16) thematically analyze data collected through two phases of semi-structured interviews with journalists from national television, radio, newspapers, and online platforms. The results indicate that AI integration in the newsrooms has personal and sporadic characteristics and is mainly self-directed and individualized, limited to supportive tasks (such as transcription, subtitling, and video editing), rather than core functions. A lack of specific strategies, formal institutional policies, and organizational guidance is also recorded. Linguistic barriers and financial difficulties seem to be the most common constraints, highlighting the need for targeted training on ethical and efficient use of AI tools within the daily work routines.

The seventeenth paper focuses on the socio-ethical implications of language-based AI systems on media content generation. Through a systematic literature review, followed by thematic coding and structured analysis, Lamprou, Dekoulou, and Kalliris (Contribution 17) explore three core domains: bias detection, storytelling transformation, and ethical governance frameworks. Synthesized findings from peer-reviewed sources, policy documents, and industry reports identify recurring tensions between automation and authenticity, efficiency and editorial integrity, innovation, and institutional oversight. Furthermore, the paper articulates the Human–AI Co-Creation Model, emphasizing that AI value is not inherent but context-dependent and shaped by editorial culture, professional norms, and societal expectations. Overall, the study offers practical insights for media organizations, such as hybrid editorial models that balance automation with human moderation, development of in-house ethical protocols, and application of bias-detection tools.

The eighteenth paper introduces the motivation, development, and evaluation of the iMedius framework, an AI-driven media impact monitoring system that employs user reactions through attention tracking. Katsaounidou et al. (Contribution 18) integrate multidisciplinary procedures using social science research instruments with digital multimodal analysis tools, combining rapid prototyping models with a human-centric iterative co-design process and evaluation along with the information systems design science research. Furthermore, a dynamic Form Builder allows for the construction and management of pre- and post-intervention questionnaires, thus helping associate collected survey data with the respective (eye- and mouse-) tracking maps. The results of a pilot real-world scenario on disinformation and its impact on users indicate the high usability and effectiveness of the platform, which can be an open-access solution for analyzing the complex dynamics of news stream at the consumption end.

The nineteenth paper presents a scoping review that maps the existing literature on the role of GenAI in enhancing audience participation and engagement in journalism. Chalikiopoulou, Saridou, and Veglis (Contribution 19) analyze peer-reviewed studies pub-

lished between 2022 and 2024 to examine the theories and methods employed in relevant works, the emerging areas of focus, and the AI tools used by media organizations to foster audience involvement. The study finds that applications like AI-generated news anchors, chatbots, and recommendation systems are primarily used to improve personalization, accessibility, and interactive storytelling. While the creation of more dynamic and inclusive news environments is acknowledged by these technologies, concerns about credibility, accuracy, and the potential displacement of human editorial judgment are also underscored. Ultimately, the study identifies a research gap concerning the audience's perceptions of the content produced by AI tools.

Table 1 lists all nineteen (19) contributions incorporated in this Special Issue with their associated citations, while Table 2 highlights each article's scientific focus and research area. Based on these tables, an effort was conducted to visually depict the SI focus in terms of the content of the contributions and the associated thematic/research areas, using GenAI tools [96–98]. Specifically, Claude 4.5 (free plan) [99] and ChatGPT 5.2 (plus version, paid) [100] were deliberately used (as indicative/popular tools with different plans) to illustrate how such approaches can be applied in illustrative cases, with the results presented in the subsequent figures along with their associated prompts. Specifically, Table 3 presents the prompts used in ChatGPT and Claude to map the above information into visualization diagrams. Figures 1 and 2 were crafted as minimal block diagrams with reduced visual effects, extracted from both the listed tools. To enhance the visual element, Figures 3 and 4 were generated solely in ChatGPT (prompts 2 and 3), as Claude did not yield meaningful results. Next, Tables 1 and 2 were inserted as prompt inputs, asking the tool to adapt the previous visualization and also indicating the contribution number (Ci, i = 1–19) in each category (prompt 4; again, ChatGPT provided meaningful outcomes in Figure 5). However, this final exercise was also executed in NotebookLM (free plan) [101], using as input a document with the SI's title, abstract and keywords, each contribution's descriptions, and the two tables (Tables 1 and 2), with the prompt given in Table 4, resulting in Figure 6. In all cases, we can spot advantages and disadvantages, such as the minimal effort required to come up with a baseline diagram, which may rely on a style transfer from a related past case. Still, inconveniences may arise and require human intervention. For instance, the connectors in Figure 1 could have colors identical to those of the connecting blocks, while small graphical icons could accompany and identify each block/category. Likewise, in Figure 4, the green color should not have been used to indicate both the "Media, Journalism, and Communication Domain" and the "multidisciplinary dimension". It can be argued that Figures 3 and 4 are becoming somewhat complicated by the randomly repeated icons outside the main block, which is resolved in the minimal character of Figure 5. Finally, Figure 6 is a good conceptual diagram, but someone should check whether the added text is free of language errors and typos (which is not) and aligns with the contributions and the SI as a whole (and adapt, if necessary).

Table 1. List of contributions with their associated citations.

Contribution 1 (C1)	Lugo-Morin, D.R. Artificial Intelligence on Food Vulnerability: Future Implications within a Framework of Opportunities and Challenges. <i>Societies</i> 2024 , <i>14</i> , 106. https://doi.org/10.3390/soc14070106
Contribution 2 (C2)	Vázquez-Parra, J.C.; Henao-Rodríguez, C.; Lis-Gutiérrez, J.P.; Palomino-Gámez, S. Importance of University Students' Perception of Adoption and Training in Artificial Intelligence Tools. <i>Societies</i> 2024 , <i>14</i> , 141. https://doi.org/10.3390/soc14080141

Table 1. Cont.

Contribution 3 (C3)	Shih, N.-J. AI-Generated Graffiti Simulation for Building Façade and City Fabric. <i>Societies</i> 2024 , <i>14</i> , 142. https://doi.org/10.3390/soc14080142
Contribution 4 (C4)	Kouros, T.; Papa, V. Digital Mirrors: AI Companions and the Self. <i>Societies</i> 2024 , <i>14</i> , 200. https://doi.org/10.3390/soc14100200
Contribution 5 (C5)	Saklaki, A.; Gardikiotis, A. Exploring Greek Students' Attitudes Toward Artificial Intelligence: Relationships with AI Ethics, Media, and Digital Literacy. <i>Societies</i> 2024 , <i>14</i> , 248. https://doi.org/10.3390/soc14120248
Contribution 6 (C6)	Slesinger, I.; Yalaz, E.; Rizou, S.; Gibin, M.; Krasanakis, E.; Papadopoulos, S. Training in Co-Creation as a Methodological Approach to Improve AI Fairness. <i>Societies</i> 2024 , <i>14</i> , 259. https://doi.org/10.3390/soc14120259
Contribution 7 (C7)	Matsiola, M.; Lappas, G.; Yannacopoulou, A. Generative AI in Education: Assessing Usability, Ethical Implications, and Communication Effectiveness. <i>Societies</i> 2024 , <i>14</i> , 267. https://doi.org/10.3390/soc14120267
Contribution 8 (C8)	Bodini, M. Generative Artificial Intelligence and Regulations: Can We Plan a Resilient Journey Toward the Safe Application of Generative Artificial Intelligence? <i>Societies</i> 2024 , <i>14</i> , 268. https://doi.org/10.3390/soc14120268
Contribution 9 (C9)	Yannacopoulou, A.; Kallinikos, K. Measuring Destination Image Using AI and Big Data: Kastoria's Image on TripAdvisor. <i>Societies</i> 2025 , <i>15</i> , 5. https://doi.org/10.3390/soc15010005
Contribution 10 (C10)	Kalfeli, P.; Angeli, C. The Intersection of AI, Ethics, and Journalism: Greek Journalists' and Academics' Perspectives. <i>Societies</i> 2025 , <i>15</i> , 22. https://doi.org/10.3390/soc15020022
Contribution 11 (C11)	Spyridou, P.; Ioannou, M. Exploring AI Amid the Hype: A Critical Reflection Around the Applications and Implications of AI in Journalism. <i>Societies</i> 2025 , <i>15</i> , 23. https://doi.org/10.3390/soc15020023
Contribution 12 (C12)	Siamtanidou, E.; Vrysis, L.; Vryzas, N.; Dimoulas, C.A. Gamified Engagement for Data Crowdsourcing and AI Literacy: An Investigation in Affective Communication Through Speech Emotion Recognition. <i>Societies</i> 2025 , <i>15</i> , 54. https://doi.org/10.3390/soc15030054
Contribution 13 (C13)	Palla, Z.; Kostarella, I. Journalists' Perspectives on the Role of Artificial Intelligence in Enhancing Quality Journalism in Greek Local Media. <i>Societies</i> 2025 , <i>15</i> , 89. https://doi.org/10.3390/soc15040089
Contribution 14 (C14)	Dokic, K.; Pisker, B.; Radisic, B. Mirroring Cultural Dominance: Disclosing Large Language Models Social Values, Attitudes and Stereotypes. <i>Societies</i> 2025 , <i>15</i> , 142. https://doi.org/10.3390/soc15050142

Table 1. *Cont.*

Contribution 15 (C15)	Oncioiu, I.; Bularca, A.R. Artificial Intelligence Governance in Higher Education: The Role of Knowledge-Based Strategies in Fostering Legal Awareness and Ethical Artificial Intelligence Literacy. <i>Societies</i> 2025 , <i>15</i> , 144. https://doi.org/10.3390/soc15060144
Contribution 16 (C16)	Triantafyllou, S.; Panagopoulos, A.M.; Kapos, P. AI Pioneers and Stragglers in Greece: Challenges, Gaps, and Opportunities for Journalists and Media. <i>Societies</i> 2025 , <i>15</i> , 209. https://doi.org/10.3390/soc15080209
Contribution 17 (C17)	Lamprou, S.; Dekoulou, P.; Kalliris, G. The Critical Impact and Socio-Ethical Implications of AI on Content Generation Practices in Media Organizations. <i>Societies</i> 2025 , <i>15</i> , 214. https://doi.org/10.3390/soc15080214
Contribution 18 (C18)	Katsaounidou, A.; Xylogiannis, P.; Baltzi, T.; Saridou, T.; Papadopoulos, S.; Dimoulas, C. An AI-Driven News Impact Monitoring Framework Through Attention Tracking. <i>Societies</i> 2025 , <i>15</i> , 233. https://doi.org/10.3390/soc15080233
Contribution 19 (C19)	Chalikiopoulou, E.; Saridou, T.; Veglis, A. The Role of Generative AI in Enhancing Audience Participation in Journalism: A Scoping Review. <i>Societies</i> 2025 , <i>15</i> , 358. https://doi.org/10.3390/soc15120358

Table 2. Contributions by research areas.

Contributions	Research Area/Focus
AI literacy	
Contribution 2 (C2)	Integration of AI in higher education (students' perceptions)
Contribution 5 (C5)	AI attitudes, ethical concerns, and literacy skills for university students
Contribution 7 (C7)	Usability, ethics, and effectiveness of GenAI in higher education
Contribution 12 (C12)	Gamification and serious games for AI literacy and speech emotion recognition
Contribution 15 (C15)	Knowledge strategies and institutional governance in higher education for AI ethics
AI ethical and legal challenges	
Contribution 4 (C4)	Socio-technical dynamics and ethical risks of AI Companions
Contribution 6 (C6)	Participatory co-creation training for AI bias mitigation and fairness
Contribution 8 (C8)	Regulatory frameworks for societal, ethical, and economic challenges of GenAI
Contribution 14 (C14)	Social influence of cultural and linguistic bias in LLMs
AI in Journalism, Media, and Communications	
Contribution 10 (C10)	AI adoption, risks, and ethics in journalism (journalists' and academics' perspectives)
Contribution 11 (C11)	Political economy of AI dynamics and ethical implications in journalism

Table 2. Cont.

Contributions	Research Area/Focus
AI in Journalism, Media, and Communications	
Contribution 16 (C16)	AI adoption, challenges, and practices in media organizations
Contribution 17 (C17)	Socio-ethical implications of language-based AI in media content
Contribution 18 (C18)	AI for media impact monitoring and user engagement
Contribution 19 (C19)	GenAI for enhancing audience engagement in journalism
AI in everyday human activities and society	
Contribution 1 (C1)	AI’s role in food sustainability
Contribution 3 (C3)	Simulation of street art on building façades using GenAI
Contribution 9 (C9)	Big data and AI-driven analysis of tourist destination images

Table 3. Prompts provided to GenAI tools (Claude Sonnet 4.5 [47], free plan, and ChatGPT 5.2 [48], plus version) to create a conceptual diagram to visualize the content and the thematic areas of the SI.

Prompt ID	Prompt Text	Result [AI Tool]
1	I would like a conceptual figure/diagram, mapping the publication title “Artificial Intelligence in Participatory Environments: Technologies, Ethics, and Literacy Aspects” and presenting the following main categories: AI literacy AI ethical and legal challenges AI in Journalism, Media, and Communications AI in everyday human activities and society	Figure 1 [Claude] Figure 2 [ChatGPT]
2	Can you adapt it to the style of this Figure [15], with enhanced visual elements?	Figure 3 [ChatGPT]
3	If possible, also add a multidisciplinary dimension	Figure 4 [ChatGPT]
4	Use these 2 tables to adapt the previous visualization, also indicating contribution number (Ci, i = 1–19) in each category	Figure 5 [ChatGPT]

Table 4. Prompts provided to GenAI tools (NotebookLM [101], free plan) to create a conceptual diagram to visualize the content and the thematic areas of the SI, giving as inputs the SI’s title, abstract and keywords, each contribution’s descriptions, and the two tables (Tables 1 and 2).

Prompt Text	Result [AI Tool]
I would like a conceptual figure/diagram, mapping the publication title “Artificial Intelligence in Participatory Environments: Technologies, Ethics, and Literacy Aspects” and presenting the following main categories (each one indicated with different color): AI literacy AI ethical and legal challenges AI in Journalism, Media, and Communications AI in everyday human activities and society On top of that, if possible, also add a multidisciplinary dimension	Figure 6 [NotebookLM]

Table 4. Cont.

Prompt Text	Result [AI Tool]
<p>If you can, adapt it to the style of this figure (https://mdpi-res.com/sustainability/sustainability-14-00812/article_deploy/html/images/sustainability-14-00812-g001.png, accessed on 8 February 2026), with enhanced visual elements?</p> <p>Use Tables 1 and 2 for the needed information</p>	Figure 6 [NotebookLM]

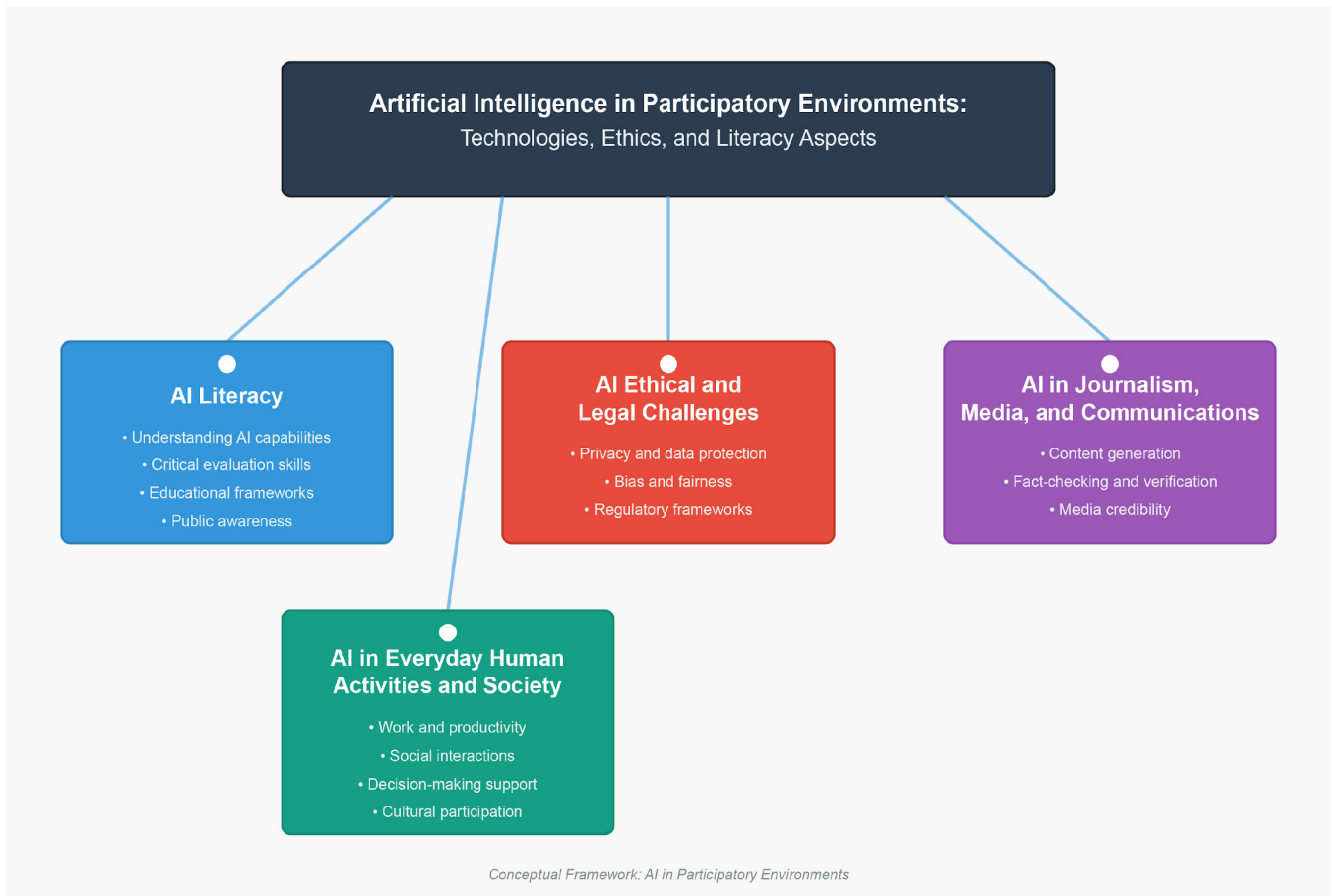


Figure 1. *Societies* volume (SI) on “Artificial Intelligence in Participatory Environments: Technologies, Ethics, and Literacy Aspects”—a conceptual diagram using Claude Sonnet 4.5 [99], free plan, with prompt 1 (Table 3).

The utilization of GenAI tools was deliberately selected as part of the editorial design to comprehensively illustrate the multidisciplinary focus of the current SI. The iterative, goal-oriented process involved diverse platforms, namely Claude 4.5 (free plan), ChatGPT 5.2 (plus version, paid), and NotebookLM (free plan), to explore how different tools could be used to visually synthesize and facilitate meaningful depictions of the research data. This evolving procedure was shaped by a series of increasingly complex tasks, with emphasis on the right prompting and constant human moderation. Specifically, the gradual provision of specific inputs led to results of escalating detail and complexity. Authors could thus evaluate each figure given and provide additional material to enhance the final result. Through this approach, initial illustrations were minimal diagrams to map only the SI’s title and thematic areas, while subsequent prompts enabled the adaptation to a given figure sample and the addition of numbers and descriptions for each contribution. Furthermore, human guidance was critical not only for refining the esthetics of the outputs but also for

correcting visual issues that could lead to misunderstandings (e.g., the use of the same color to represent different scientific areas). Authors' active moderation and interventions were, most importantly, necessary to verify that any output remained aligned with the SI's context, contributions, and orientation. Overall, this iterative process underscores the potential of GenAI tools to significantly enhance the visualization of research processes and findings, offering possibilities ranging from minimal diagrams to more complex illustrations. At the same time, this editorial selection highlights the need for continuous human oversight to ensure accurate and responsible integration of AI capabilities into research practices. Based on the illustrated examples, such GenAI diagrams can be easily produced and readily accommodated with minimal intervention to meet the needs of the research and broader visualization tasks. On the other hand, these initial drawings can be used to inspire and guide visualization ideas, where humans (designers) can further elaborate to shape a more specific/targeted visual narration. In all cases, proper referencing, including citations of the AI tools used and the specific prompts employed, is necessary to ensure transparency, thus allowing other researchers to repeat these processes in similar and broader experimental contexts. Hence, the incorporation of these indicative visualizations, among others, serves to showcase presentation possibilities and indicate potential best practices in LLM prompt engineering and AI referencing.

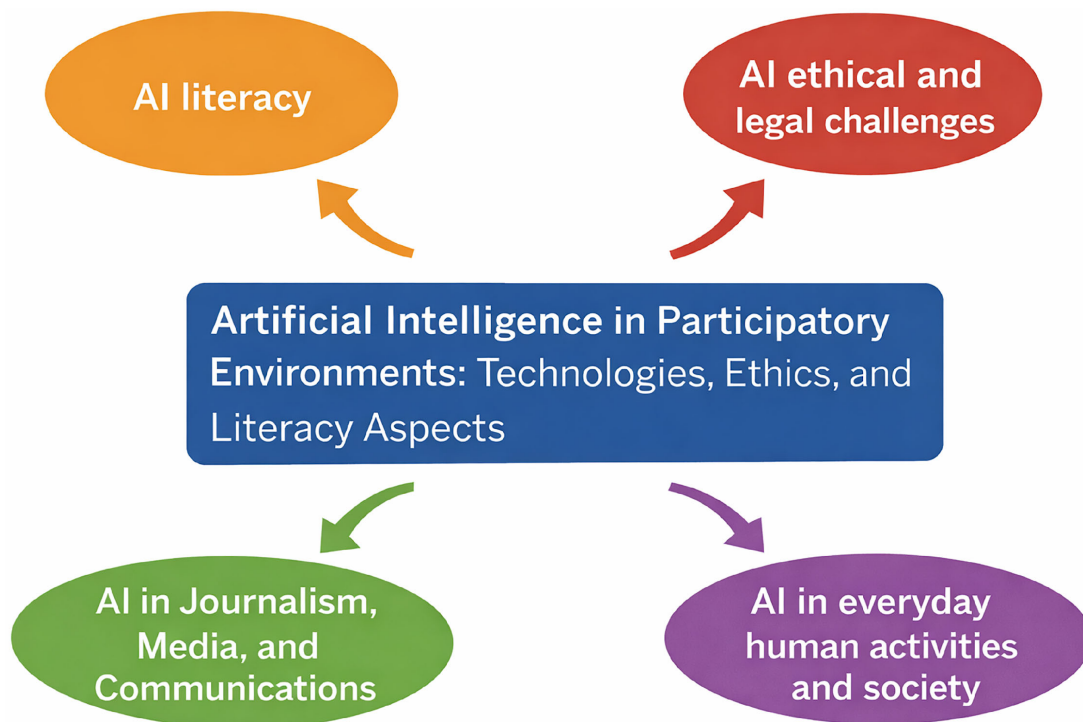


Figure 2. *Societies* volume (SI) on “Artificial Intelligence in Participatory Environments: Technologies, Ethics, and Literacy Aspects”—a conceptual diagram using ChatGPT 5.2 [100], plus version, with prompt 1 (Table 3).

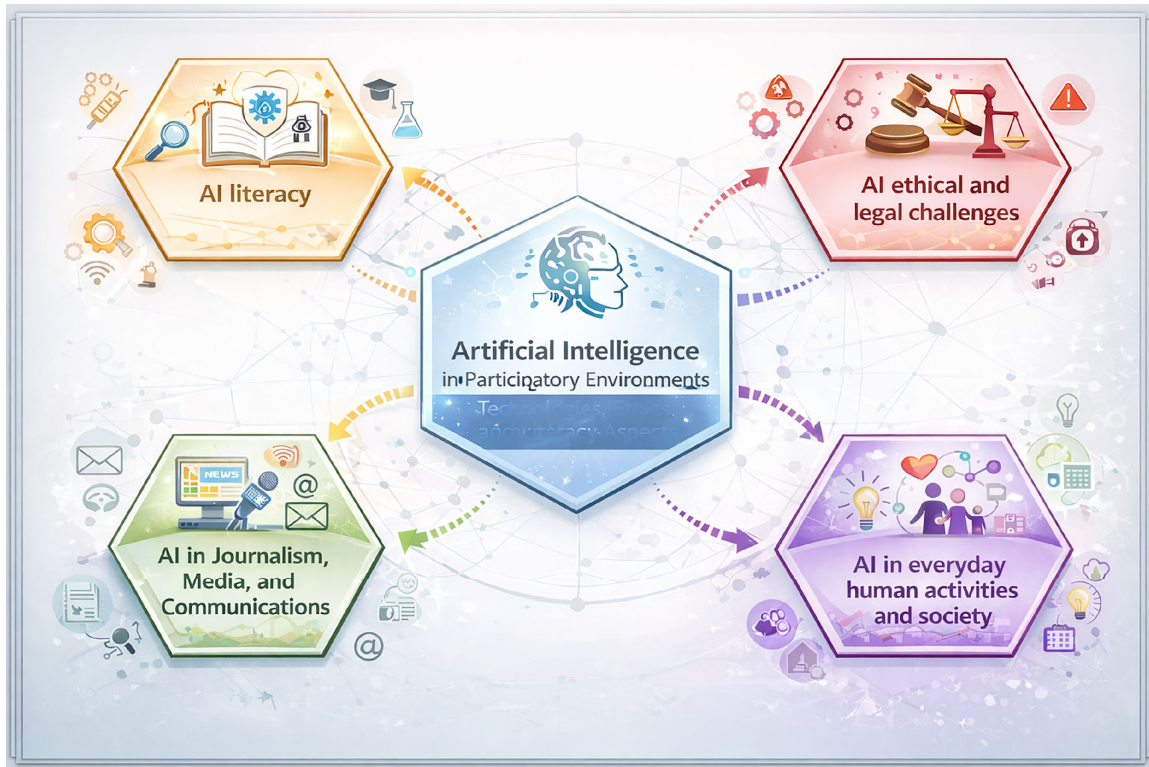


Figure 3. Societies volume (SI) on “Artificial Intelligence in Participatory Environments: Technologies, Ethics, and Literacy Aspects”—a conceptual diagram using ChatGPT 5.2 [100], plus version, with prompt 2 (Table 3).



Figure 4. Societies volume (SI) on “Artificial Intelligence in Participatory Environments: Technologies, Ethics, and Literacy Aspects”—a conceptual diagram using ChatGPT 5.2 [100], plus version, with prompt 3 (Table 3).

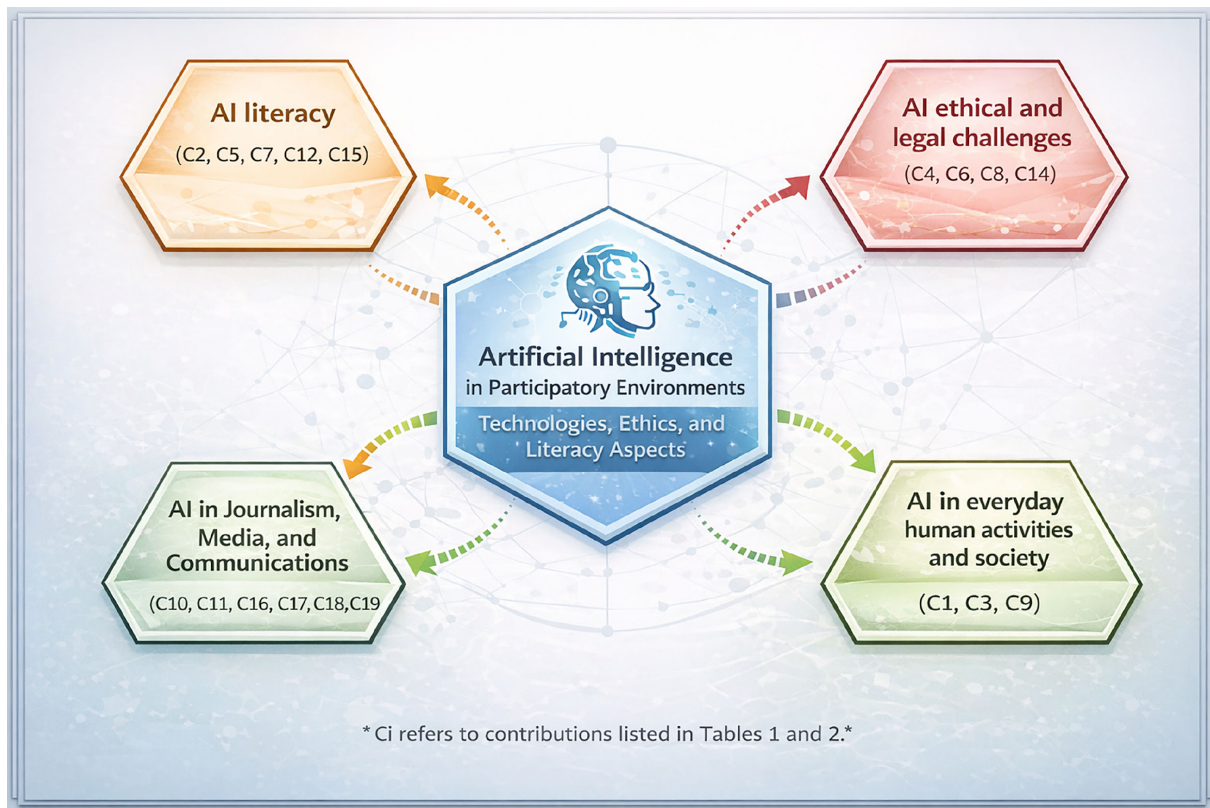


Figure 5. Societies volume (SI) on “Artificial Intelligence in Participatory Environments: Technologies, Ethics, and Literacy Aspects”—a conceptual diagram using ChatGPT 5.2 [100], plus version, with prompt 4 (Table 3).

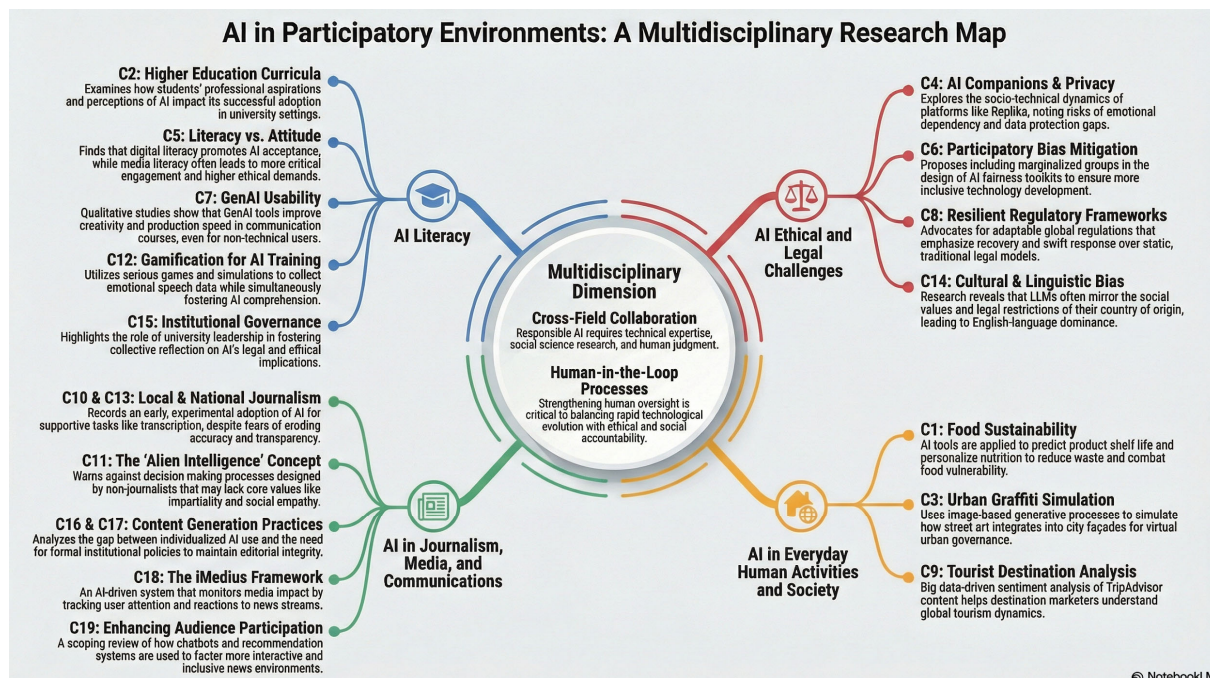


Figure 6. Societies volume (SI) on “Artificial Intelligence in Participatory Environments: Technologies, Ethics, and Literacy Aspects”—a conceptual diagram using NotebookLM [101], free plan, with the prompt of Table 4.

3. Conclusions

Recent advancements in ML/DL and NLP along with the socio-economic conditions have considerably altered the integration of AI in multiple aspects of our daily life. This Special Issue explores the integration of AI tools and systems in participatory environments focusing on technologies, ethics, and literacy. Research contributions underscored the major opportunities offered for a wide spectrum of industries and professions, within which AI can facilitate the workflows, reinforce collaborative activities, save resources, and foster skills development. In this framework, diverse fields such as higher education, journalism, art, and tourism integrate AI tools and applications in their activities.

However, works published in the Special Issue also highlight the significant ethical and legal concerns arising from the AI adoption, including emotional dependency, cultural and linguistic biases, data privacy issues, and the potential loss of transparency, accuracy, and human judgment. It is thus suggested that responsible and trustworthy development and implementation of AI systems requires not only fair and accountable regulatory frameworks, but also adjustable and inclusive approaches. Multidisciplinary collaboration between all stakeholders can balance rapid technological evolution with human moderation to ensure harmless, ethical, and human-centric AI. Therefore, tailored digital, media, and AI literacy programs across different environments and for all actors involved is considered vital.

Conflicts of Interest: The authors declare no conflicts of interest.

List of Contributions

1. Lugo-Morin, D.R. Artificial Intelligence on Food Vulnerability: Future Implications within a Framework of Opportunities and Challenges. *Societies* **2024**, *14*, 106. <https://doi.org/10.3390/soc14070106>.
2. Vázquez-Parra, J.C.; Henao-Rodríguez, C.; Lis-Gutiérrez, J.P.; Palomino-Gámez, S. Importance of University Students' Perception of Adoption and Training in Artificial Intelligence Tools. *Societies* **2024**, *14*, 141. <https://doi.org/10.3390/soc14080141>.
3. Shih, N.-J. AI-Generated Graffiti Simulation for Building Façade and City Fabric. *Societies* **2024**, *14*, 142. <https://doi.org/10.3390/soc14080142>.
4. Kouros, T.; Papa, V. Digital Mirrors: AI Companions and the Self. *Societies* **2024**, *14*, 200. <https://doi.org/10.3390/soc14100200>.
5. Saklaki, A.; Gardikiotis, A. Exploring Greek Students' Attitudes Toward Artificial Intelligence: Relationships with AI Ethics, Media, and Digital Literacy. *Societies* **2024**, *14*, 248. <https://doi.org/10.3390/soc14120248>.
6. Slesinger, I.; Yalaz, E.; Rizou, S.; Gibin, M.; Krasanakis, E.; Papadopoulos, S. Training in Co-Creation as a Methodological Approach to Improve AI Fairness. *Societies* **2024**, *14*, 259. <https://doi.org/10.3390/soc14120259>.
7. Matsiola, M.; Lappas, G.; Yannacopoulou, A. Generative AI in Education: Assessing Usability, Ethical Implications, and Communication Effectiveness. *Societies* **2024**, *14*, 267. <https://doi.org/10.3390/soc14120267>.
8. Bodini, M. Generative Artificial Intelligence and Regulations: Can We Plan a Resilient Journey Toward the Safe Application of Generative Artificial Intelligence? *Societies* **2024**, *14*, 268. <https://doi.org/10.3390/soc14120268>.
9. Yannacopoulou, A.; Kallinikos, K. Measuring Destination Image Using AI and Big Data: Kastoria's Image on TripAdvisor. *Societies* **2025**, *15*, 5. <https://doi.org/10.3390/soc15010005>.
10. Kalfeli, P.; Angeli, C. The Intersection of AI, Ethics, and Journalism: Greek Journalists' and Academics' Perspectives. *Societies* **2025**, *15*, 22. <https://doi.org/10.3390/soc15020022>.
11. Spyridou, P.; Ioannou, M. Exploring AI Amid the Hype: A Critical Reflection Around the Applications and Implications of AI in Journalism. *Societies* **2025**, *15*, 23. <https://doi.org/10.3390/soc15020023>.

12. Siamtanidou, E.; Vrysis, L.; Vryzas, N.; Dimoulas, C.A. Gamified Engagement for Data Crowdsourcing and AI Literacy: An Investigation in Affective Communication Through Speech Emotion Recognition. *Societies* **2025**, *15*, 54. <https://doi.org/10.3390/soc15030054>.
13. Palla, Z.; Kostarella, I. Journalists' Perspectives on the Role of Artificial Intelligence in Enhancing Quality Journalism in Greek Local Media. *Societies* **2025**, *15*, 89. <https://doi.org/10.3390/soc15040089>.
14. Dokic, K.; Pisker, B.; Radisic, B. Mirroring Cultural Dominance: Disclosing Large Language Models Social Values, Attitudes and Stereotypes. *Societies* **2025**, *15*, 142. <https://doi.org/10.3390/soc15050142>.
15. Oncioiu, I.; Bularca, A.R. Artificial Intelligence Governance in Higher Education: The Role of Knowledge-Based Strategies in Fostering Legal Awareness and Ethical Artificial Intelligence Literacy. *Societies* **2025**, *15*, 144. <https://doi.org/10.3390/soc15060144>.
16. Triantafyllou, S.; Panagopoulos, A.M.; Kapos, P. AI Pioneers and Stragglers in Greece: Challenges, Gaps, and Opportunities for Journalists and Media. *Societies* **2025**, *15*, 209. <https://doi.org/10.3390/soc15080209>.
17. Lamprou, S.; Dekoulou, P.; Kalliris, G. The Critical Impact and Socio-Ethical Implications of AI on Content Generation Practices in Media Organizations. *Societies* **2025**, *15*, 214. <https://doi.org/10.3390/soc15080214>.
18. Katsaounidou, A.; Xylogiannis, P.; Baltzi, T.; Saridou, T.; Papadopoulos, S.; Dimoulas, C. An AI-Driven News Impact Monitoring Framework Through Attention Tracking. *Societies* **2025**, *15*, 233. <https://doi.org/10.3390/soc15080233>.
19. Chalikiopoulou, E.; Saridou, T.; Veglis, A. The Role of Generative AI in Enhancing Audience Participation in Journalism: A Scoping Review. *Societies* **2025**, *15*, 358. <https://doi.org/10.3390/soc15120358>.

References

1. Kostarella, I.; Saridou, T.; Dimoulas, C.; Veglis, A. Can Artificial Intelligence (AI) Spring an Oasis to the Local News Deserts? *J. Pract.* **2025**, *19*, 2341–2361. [[CrossRef](#)]
2. Barnett, J.; Kieslich, K.; Helberger, N.; Diakopoulos, N. Envisioning Stakeholder-Action Pairs to Mitigate Negative Impacts of AI: A Participatory Approach to Inform Policy Making. In *Proceedings of the 2025 ACM Conference on Fairness, Accountability, and Transparency (FAccT '25)*; Association for Computing Machinery: New York, NY, USA, 2025; pp. 1424–1449. [[CrossRef](#)]
3. Monte-Serrat, D.M.; Cabella, D.M.S.; Cattani, C. Ethics and Sustainability in Education That Makes Use of Artificial Intelligence and Robots. In *Social Robots and Artificial Intelligence in Education*; Papadakis, S., Lampropoulos, G., Eds.; Digital Education and Learning; Palgrave Macmillan: Cham, Switzerland, 2025. [[CrossRef](#)]
4. Garcia, M.B. The Paradox of Artificial Creativity: Challenges and Opportunities of Generative AI Artistry. *Creat. Res. J.* **2025**, *37*, 755–768. [[CrossRef](#)]
5. Armand, T.P.; Nfor, K.A.; Kim, J.-I.; Kim, H.-C. Applications of Artificial Intelligence, Machine Learning, and Deep Learning in Nutrition: A Systematic Review. *Nutrients* **2024**, *16*, 1073. [[CrossRef](#)]
6. Santoso, B.; Wijayanti, R. Human-AI Collaboration in Creative Industries: Workflows in Media Production and Community-Driven Platforms. *Trans. Artif. Intell. Mach. Learn. Cogn. Syst.* **2024**, *9*, 11–26.
7. Santos, M.R.; Carvalho, L.C. AI-driven participatory environmental management: Innovations, applications, and future prospects. *J. Environ. Manag.* **2025**, *373*, 123864. [[CrossRef](#)]
8. Zhai, X.; Chu, X.; Chai, C.S.; Jong, M.S.Y.; Istenic, A.; Spector, M.; Liu, J.-B.; Yuan, J.; Li, Y. A Review of Artificial Intelligence (AI) in Education from 2010 to 2020. *Complexity* **2021**, *2021*, 8812542. [[CrossRef](#)]
9. Broussard, M.; Diakopoulos, N.; Guzman, A.L.; Abebe, R.; Dupagne, M.; Chuan, C.H. Artificial intelligence and journalism. *Journal. Mass Commun. Q.* **2019**, *96*, 673–695. [[CrossRef](#)]
10. Feher, K. Exploring AI media. Definitions, conceptual model, research agenda. *J. Media Bus. Stud.* **2024**, *21*, 340–363. [[CrossRef](#)]
11. Filieri, R.; D'Amico, E.; Destefanis, A.; Paolucci, E.; Raguseo, E. Artificial intelligence (AI) for tourism: An European-based study on successful AI tourism start-ups. *Int. J. Contemp. Hosp. Manag.* **2021**, *33*, 4099–4125. [[CrossRef](#)]
12. Pergantis, M.; Katsaounidou, A.; Lamprogeorgos, A.; Giannakouloupoulos, A. Aesthetics and Usability in Digital Art Repositories: Using the iMedius Platform to Collect User Feedback Through Attention Tracking. *Arts* **2026**, *15*, 9. [[CrossRef](#)]
13. Kotenidis, E.; Vryzas, N.; Veglis, A.; Dimoulas, C. Integrating Chatbot Media Automations in Professional Journalism: An Evaluation Framework. *Future Internet* **2022**, *14*, 343. [[CrossRef](#)]

14. Vryzas, N.; Vrysis, L.; Kotsakis, R.; Dimoulas, C. A web crowdsourcing framework for transfer learning and personalized speech emotion recognition. *Mach. Learn. Appl.* **2025**, *6*, 100132. [[CrossRef](#)]
15. Dimoulas, C.A. Cultural Heritage Storytelling, Engagement and Management in the Era of Big Data and the Semantic Web. *Sustainability* **2022**, *14*, 812. [[CrossRef](#)]
16. Dimoulas, C.A.; Veglis, A.; Kalliris, G. Semantically Enhanced Authoring of Shared Media. In *Encyclopedia of Information Science and Technology*, 4th ed.; Mehdi Khosrow-Pour, D.B.A., Ed.; IGI Global Scientific Publishing: Hershey, PA, USA, 2018; pp. 6476–6487. [[CrossRef](#)]
17. Vryzas, N.; Vrysis, L.; Dimoulas, C. Audiovisual speaker indexing for Web-TV automations. *Expert Syst. Appl.* **2021**, *186*, 115833. [[CrossRef](#)]
18. Nalmpantis, C.; Vrysis, L.; Vlachava, D.; Papageorgiou, L.; Vrakas, D. Noise invariant feature pooling for the internet of audio things. *Multimed. Tools Appl.* **2022**, *81*, 32057–32072. [[CrossRef](#)]
19. Nalmpantis, C.; Vrysis, L.; Vlachava, D.; Papageorgiou, L.; Vrakas, D. Entropy Based Feature Pooling in Speech Command Classification. In *Intelligent Computing: Proceedings of the 2021 Computing Conference*; Springer International Publishing: Cham, Switzerland, 2021; Volume 3, pp. 1083–1091.
20. Raptis, I.; Tsourma, M.; Drosou, A.; Tzovaras, D. Optimizing Advertisement Placement Using Saliency Estimation in Filmmaking. In *2024 19th International Workshop on Semantic and Social Media Adaptation & Personalization (SMAP)*; IEEE: Piscataway, NJ, USA, 2014; pp. 63–67.
21. Antamis, T.; Drosou, A.; Vafeiadis, T.; Nizamis, A.; Ioannidis, D.; Tzovaras, D. Interpretability of deep neural networks: A review of methods, classification and hardware. *Neurocomputing* **2024**, *601*, 128204. [[CrossRef](#)]
22. Sharma, V.; Gupta, M.; Kumar, A.; Mishra, D. Video processing using deep learning techniques: A systematic literature review. *IEEE Access* **2021**, *9*, 139489–139507. [[CrossRef](#)]
23. Niarchos, M.; Stamatiadou, M.E.; Dimoulas, C.; Veglis, A.; Symeonidis, A. A semantic preprocessing framework for breaking news detection to support future drone journalism services. *Future Internet* **2022**, *14*, 26. [[CrossRef](#)]
24. Tsourma, M.; Zamichos, A.; Efthymiadis, E.; Drosou, A.; Tzovaras, D. An AI-Enabled Framework for Real-Time Generation of News Articles Based on Big EO Data for Disaster Reporting. *Future Internet* **2021**, *13*, 161. [[CrossRef](#)]
25. Baltzi, T.; Nikitaki, S.; Galatsopoulou, F.; Kostarella, I.; Veglis, A.; Vasiliopoulos, V.; Papaevagelou, D.; Skamnakis, A. MediaWatchers4Climate: Assessing the Accuracy of Climate Change Narratives in Greek Media Through Machine Learning. *Mach. Learn. Knowl. Extr.* **2025**, *7*, 53. [[CrossRef](#)]
26. Kostarella, I.; Palla, Z. Sensationalism versus Substance: Exploring “Viral” and “Quality” Journalism in the Greek Public Sphere. *Journal. Media* **2024**, *5*, 1173–1193. [[CrossRef](#)]
27. Vryzas, N.; Katsaounidou, A.; Vrysis, L.; Kotsakis, R.; Dimoulas, C. A prototype web application to support human-centered audiovisual content authentication and crowdsourcing. *Future Internet* **2022**, *14*, 75. [[CrossRef](#)]
28. Patsiouras, E.; Vasileiou, S.K.; Papadopoulos, S.; Dourvas, N.I.; Ioannidis, K.; Vrochidis, S.; Kompatsiaris, I. Integrating ai and computer vision for ballistic and bloodstain analysis in 3d digital forensics. In *2024 IEEE International Conference on Metrology for eXtended Reality, Artificial Intelligence and Neural Engineering (MetroXRINE)*; IEEE: Piscataway, NJ, USA, 2024; pp. 734–739.
29. Ketsekioulafis, I.; Filandrianos, G.; Katsos, K.; Thomas, K.; Spiliopoulou, C.; Stamou, G.; Sakelliadis, E.I. Artificial intelligence in forensic sciences: A systematic review of past and current applications and future perspectives. *Cureus* **2024**, *16*, e70363. [[CrossRef](#)] [[PubMed](#)]
30. Dimoulas, C.A.; Veglis, A. Theory and Applications of Web 3.0 in the Media Sector. *Future Internet* **2023**, *15*, 165. [[CrossRef](#)]
31. Stray, J. Making artificial intelligence work for investigative journalism. In *Algorithms, Automation, and News*; Routledge: London, UK, 2021; pp. 97–118. [[CrossRef](#)]
32. Hemraj, S. AI and the future of creative development: Redefining digital media production. *AI Ethics* **2025**, *5*, 5105–5119. [[CrossRef](#)]
33. Kok, C.L.; Ho, C.K.; Koh, Y.Y.; Thanh, N.T.C.; Teo, T.H. Collaborative Learning Environments Facilitated by AI Technologies. In *TENCON 2024—2024 IEEE Region 10 Conference*; IEEE: Singapore, 2024; pp. 1841–1844. [[CrossRef](#)]
34. Msambwa, M.M.; Wen, Z.; Daniel, K. The impact of AI on the personal and collaborative learning environments in higher education. *Eur. J. Educ.* **2025**, *60*, e12909. [[CrossRef](#)]
35. Cohen, Y.; Biton, A.; Shoval, S. Fusion of Computer Vision and AI in Collaborative Robotics: A Review and Future Prospects. *Appl. Sci.* **2025**, *15*, 7905. [[CrossRef](#)]
36. Kakani, V.; Nguyen, V.H.; Kumar, B.P.; Kim, H.; Pasupuleti, V.R. A critical review on computer vision and artificial intelligence in food industry. *J. Agric. Food Res.* **2020**, *2*, 100033. [[CrossRef](#)]
37. Katsaounidou, A.; Dimoulas, C.; Veglis, A. *Cross-Media Authentication and Verification: Emerging Research and Opportunities*; IGI Global Scientific Publishing: Hershey, PA, USA, 2019. [[CrossRef](#)]
38. Berrondo-Otermin, M.; Sarasa-Cabezuelo, A. Application of Artificial Intelligence Techniques to Detect Fake News: A Review. *Electronics* **2023**, *12*, 5041. [[CrossRef](#)]

39. Saridou, T. Mapping the Role of Artificial Intelligence in Managing Audience Participation in Journalism: Problems and Solutions. In *Encyclopedia of Information Science and Technology*, 6th ed.; Khosrow-Pour, M., Ed.; IGI Global: Hershey, PA, USA, 2024. [CrossRef]
40. Mahony, S.; Chen, Q. Concerns about the Role of Artificial Intelligence in Journalism, and Media Manipulation. *Journalism* **2024**, *26*, 9. [CrossRef]
41. Bolte, L.; van Wynsberghe, A. Sustainable AI and the Third Wave of AI Ethics: A Structural Turn. *AI Ethics* **2025**, *5*, 1733–1742. [CrossRef]
42. Jobin, A.; Ienca, M.; Vayena, E. The global landscape of AI ethics guidelines. *Nat. Mach. Intell.* **2019**, *1*, 389–399. [CrossRef]
43. Siau, K.; Wang, W. Artificial intelligence (AI) ethics: Ethics of AI and ethical AI. *J. Database Manag. (JDM)* **2020**, *31*, 74–87. [CrossRef]
44. Bewersdorff, A.; Hornberger, M.; Nerdel, C.; Schiff, D.S. AI advocates and cautious critics: How AI attitudes, AI interest, use of AI, and AI literacy build university students' AI self-efficacy. *Comput. Educ. Artif. Intell.* **2025**, *8*, 100340. [CrossRef]
45. Hasan, S.; Nasreen, S.; Rasul, S.S.U. Leveraging artificial intelligence (AI) in higher education: Fostering soft skills communication, collaboration, creativity and critical thinking among university students. *Int. J. Learn. Soc. Sci.* **2025**, *3*, 4. [CrossRef]
46. Crompton, H.; Burke, D. Artificial intelligence in higher education: The state of the field. *Int. J. Educ. Technol. High. Educ.* **2023**, *20*, 22. [CrossRef]
47. Aler Tubella, A.; Mora-Cantalops, M.; Nieves, J.C. How to teach responsible AI in Higher Education: Challenges and opportunities. *Ethics Inf. Technol.* **2024**, *26*, 3. [CrossRef]
48. Wang, S.; Sun, Z.; Chen, Y. Effects of Higher Education Institutes' Artificial Intelligence Capability on Students' Self-Efficacy, Creativity and Learning Performance. *Educ. Inf. Technol.* **2023**, *28*, 4919–4939. [CrossRef]
49. Kong, S.-C.; Cheung, W.M.-Y.; Zhang, G. Evaluating an artificial intelligence literacy programme for developing university students' conceptual understanding, literacy, empowerment and ethical awareness. *Educ. Technol. Soc.* **2023**, *26*, 16–30.
50. Haroud, S.; Saqri, N. Generative AI in Higher Education: Teachers' and Students' Perspectives on Support, Replacement, and Digital Literacy. *Educ. Sci.* **2025**, *15*, 396. [CrossRef]
51. Southworth, J.; Migliaccio, K.; Glover, J.; Glover, J.; Reed, D.; McCarty, C.; Brendemuhl, J.; Thomas, A. Developing a model for AI across the curriculum: Transforming the higher education landscape via innovation in AI literacy. *Comput. Educ. Artif. Intell.* **2023**, *4*, 100127. [CrossRef]
52. Kovari, A. A systematic review of AI-powered collaborative learning in higher education: Trends and outcomes from the last decade. *Soc. Sci. Humanit. Open* **2025**, *11*, 101335. [CrossRef]
53. Katsaounidou, A.; Vrysis, L.; Kotsakis, R.; Dimoulas, C.; Veglis, A. MATHe the Game: A Serious Game for Education and Training in News Verification. *Educ. Sci.* **2019**, *9*, 155. [CrossRef]
54. Matsouliadis, L.; Siamtanidou, E.; Vryzas, N.; Dimoulas, C. Speech Emotion Recognition and Serious Games: An Entertaining Approach for Crowdsourcing Annotated Samples. *Information* **2025**, *16*, 238. [CrossRef]
55. Kalmpourtzis, G.; Ketsiakidis, G.; Vrysis, L.; Romero, M. Examining the impact of an interactive storytelling platform on educational contexts through contemporary crowdsourcing methods of audiovisual content publishing. In *2020 15th International Workshop on Semantic and Social Media Adaptation and Personalization (SMA)*; IEEE: Piscataway, NJ, USA, 2020; pp. 1–5.
56. Pérez, J.; Castro, M.; López, G. Serious games and AI: Challenges and opportunities for computational social science. *IEEE Access* **2023**, *11*, 62051–62061. [CrossRef]
57. Tols, D.; Schmidt, J.J.; Kuhn, S. The role of AI in serious games and gamification for health: Scoping review. *JMIR Serious Games* **2024**, *12*, e48258. [CrossRef]
58. Bennani, S.; Maalel, A.; Ben Ghezala, H. Adaptive gamification in E-learning: A literature review and future challenges. *Comput. Appl. Eng. Educ.* **2022**, *30*, 628–642. [CrossRef]
59. Bezzina, S.; Dingli, A. Rethinking gamification through artificial intelligence. In *the 2023 International Conference on Human-Computer Interaction*; Springer Nature: Cham, Switzerland, 2023; pp. 252–263.
60. Klouvidaki, M.I.; Antonopoulos, N.; Kostarella, I.; Tsafarakis, S. Exploring Gamification in Online Journalism: Perspectives from Media Owners Through Interviews. *Journal. Media* **2025**, *6*, 151. [CrossRef]
61. Moran, R.E.; Shaikh, S.J. Robots in the News and Newsrooms: Unpacking Meta-Journalistic Discourse on the Use of Artificial Intelligence in Journalism. *Digit. Journal.* **2022**, *10*, 1756–1774. [CrossRef]
62. Serdouk, A.; Bessam, A.C. Bots in newsrooms: What future for human journalists? *Media Watch.* **2023**, *14*, 100–115. [CrossRef]
63. Kevin-Alerechi, E.; Abutu, I.; Oladunni, O.; Osanyinro, E.; Ojumah, O.; Ogundele, E. AI and the newsroom: Transforming journalism with intelligent systems. *J. Artif. Intell. Mach. Learn. Data Sci.* **2025**, *3*, 1930–1937. [CrossRef]
64. Sonni, A.F.; Hafied, H.; Irwanto, I.; Latuheru, R. Digital Newsroom Transformation: A Systematic Review of the Impact of Artificial Intelligence on Journalistic Practices, News Narratives, and Ethical Challenges. *Journal. Media* **2024**, *5*, 1554–1570. [CrossRef]
65. Albizu-Rivas, I.; Parratt-Fernández, S.; Mera-Fernández, M. Artificial Intelligence in Slow Journalism: Journalists' Uses, Perceptions, and Attitudes. *Journal. Media* **2024**, *5*, 1836–1850. [CrossRef]

66. Gutierrez Lopez, M.; Porlezza, C.; Cooper, G.; Makri, S.; MacFarlane, A.; Missaoui, S. A Question of Design: Strategies for Embedding AI-Driven Tools into Journalistic Work Routines. *Digit. Journal.* **2023**, *11*, 484–503. [[CrossRef](#)]
67. Cools, H.; Diakopoulos, N. Uses of Generative AI in the Newsroom: Mapping Journalists' Perceptions of Perils and Possibilities. *Journal. Pract.* **2024**, *20*, 878–896. [[CrossRef](#)]
68. Wu, S. A field analysis of immersive technologies and their impact on journalism: Technologist perspectives on the potential transformation of the journalistic field. *Journal. Stud.* **2023**, *24*, 387–402. [[CrossRef](#)]
69. Linares-Pellicer, J.; Izquierdo-Domenech, J.; Ferri-Molla, I.; Aliaga-Torro, C. Breaking the bottleneck: Generative AI as the solution for XR content creation in education. In *Advanced Technologies and the University of the Future*; Springer Nature: Cham, Switzerland, 2024; pp. 9–30.
70. Pavlik, J.V. Collaborating with ChatGPT: Considering the implications of generative artificial intelligence for journalism and media education. *Journal. Mass Commun. Educ.* **2023**, *78*, 84–93. [[CrossRef](#)]
71. Van Dalen, A. Revisiting the algorithms behind the headlines. How journalists respond to professional competition of generative AI. *Journal. Pract.* **2024**, *20*, 897–914. [[CrossRef](#)]
72. Shi, Y.; Sun, L. How Generative AI Is Transforming Journalism: Development, Application and Ethics. *Journal. Media* **2024**, *5*, 582–594. [[CrossRef](#)]
73. Guo, R.; Kim, N.; Lee, J. Empirical Insights into Eye-Tracking for Design Evaluation: Applications in Visual Communication and New Media Design. *Behav. Sci.* **2024**, *14*, 1231. [[CrossRef](#)] [[PubMed](#)]
74. Carter, B.T.; Luke, S.G. Best practices in eye tracking research. *Int. J. Psychophysiol.* **2020**, *155*, 49–62. [[CrossRef](#)]
75. Krafka, K.; Khosla, A.; Kellnhofer, P.; Kannan, H.; Bhandarkar, S.; Matusik, W.; Torralba, A. Eye tracking for everyone. In *Proceedings of the 2016 IEEE Conference on Computer Vision and Pattern Recognition, Las Vegas, NV, USA, 27–30 June 2016*; pp. 2176–2184.
76. Pergantis, M.; Xylogiannis, P.; Vryzas, N.; Papadopoulos, S.; Giannakouloupoulos, A.; Dimoulas, C. UX Evaluation and Best Practices for Social Research Data-Collection Tools: The Case of iMedius FormBuilder. In *Proceedings of the 3rd International Conference of the ACM Greek SIGCHI Chapter (CHIGreece '25)*; Association for Computing Machinery: New York, NY, USA, 2025; pp. 165–173. [[CrossRef](#)]
77. Matsiola, M.; Kotenidis, E.; Dimoulas, C. How Do We Choose the Media We Consume? Features and Habits That Determine Our Choices. *Online Inf. Rev.* **2025**, *49*, 1063–1079. [[CrossRef](#)]
78. Karolidou, E.; Matsiola, M. The role of online communities in transforming news production: Challenges and opportunities. *Online Inf. Rev.* **2026**, *50*, 153–170. [[CrossRef](#)]
79. Matsiola, M. Interactive Videos as Effective Tools for Media Literacy Education in Communication and Media Courses. *Electronics* **2024**, *13*, 4738. [[CrossRef](#)]
80. Matsiola, M.; Piliotidou, Z. Efficiency and Uncertainty: Understanding Journalists' Attitudes Toward AI Adoption in Greece. *Journal. Media* **2025**, *6*, 187. [[CrossRef](#)]
81. Dodds, T.; Zamith, R.; Lewis, S.C. The AI turn in journalism: Disruption, adaptation, and democratic futures. *Journalism* **2026**, *27*, 530–544. [[CrossRef](#)]
82. Arguedas, A.R.; Simon, F.M. *Automating Democracy: Generative AI, Journalism, and the Future of Democrac*; Balliol Interdisciplinary Institute, University of Oxford: Oxford, UK, 2023.
83. Cheng, S. When Journalism meets AI: Risk or opportunity? *Digit. Gov. Res. Pract.* **2025**, *6*, 1–12. [[CrossRef](#)]
84. Wang, X.; Feng, M.; Qiu, J.; Gu, J.; Zhao, J. From news to forecast: Integrating event analysis in llm-based time series forecasting with reflection. *Adv. Neural Inf. Process. Syst.* **2024**, *37*, 58118–58153.
85. Wu, J.; Guo, J.; Hooi, B. Fake news in sheep's clothing: Robust fake news detection against LLM-empowered style attacks. In *Proceedings of the 30th ACM SIGKDD Conference on Knowledge Discovery and Data Mining*; Association for Computing Machinery: New York, NY, USA, 2024; pp. 3367–3378.
86. Sakib, S.K.; Das, A.B. Challenging Fairness: A Comprehensive Exploration of Bias in LLM-Based Recommendations. In *2024 IEEE International Conference on Big Data (BigData)*; IEEE: Washington, DC, USA, 2024; pp. 1585–1592. [[CrossRef](#)]
87. Foka, A.; Griffin, G.; Ortiz Pablo, D.; Rajkowska, P.; Badri, S. Tracing the bias loop: AI, cultural heritage and bias-mitigating in practice. *AI Soc.* **2025**, *40*, 5835–5847. [[CrossRef](#)]
88. Chopra, A.; Gupta, J.; Bhatia, V.; Wason, R.; Tripathi, S.N.; Basera, J. A Relative Assessment of Data Privacy Standards in AI Personalization of Media Platforms. In *Proceedings of the 2025 IEEE DELCON—International Conference on Recent Smart Technologies in Engineering for Sustainable Development*; IEEE: Piscataway, NJ, USA, 2025; pp. 1–5. [[CrossRef](#)]
89. Fosch-Villaronga, E.; Poulsen, A. Diversity and Inclusion in Artificial Intelligence. In *Law and Artificial Intelligence*; Custers, B., Fosch-Villaronga, E., Eds.; Information Technology and Law Series; T.M.C. Asser Press: The Hague, The Netherlands, 2022; Volume 35. [[CrossRef](#)]
90. Sigfrids, A.; Leikas, J.; Salo-Pöntinen, H.; Koskimies, E. Human-centricity in AI governance: A systemic approach. *Front. Artif. Intell.* **2023**, *6*, 976887. [[CrossRef](#)]

91. Schmitt, L. Mapping global AI governance: A nascent regime in a fragmented landscape. *AI Ethics* **2022**, *2*, 303–314. [[CrossRef](#)]
92. Radanliev, P. AI Ethics: Integrating Transparency, Fairness, and Privacy in AI Development. *Appl. Artif. Intell.* **2025**, *39*, 2463722. [[CrossRef](#)]
93. Knight, S.; Shibani, A.; Vincent, N. Ethical AI governance: Mapping a research ecosystem. *AI Ethics* **2025**, *5*, 841–862. [[CrossRef](#)]
94. Dierickx, L.; Opdahl, A.L.; Khan, S.A.; Lindén, C.G.; Guerrero Rojas, D.C. A data-centric approach for ethical and trustworthy AI in journalism. *Ethics Inf. Technol.* **2024**, *26*, 64. [[CrossRef](#)]
95. Fridman, M.; Krøvel, R.; Palumbo, F. How (not to) run an AI project in investigative journalism. *Journal. Pract.* **2025**, *19*, 1362–1379. [[CrossRef](#)]
96. Basole, R.C.; Major, T. Generative AI for visualization: Opportunities and challenges. *IEEE Comput. Graph. Appl.* **2024**, *44*, 55–64. [[CrossRef](#)] [[PubMed](#)]
97. Dar, Z.; Raheel, M.; Bokhari, U.; Jamil, A.; Alazzawi, E.M.; Hameed, A.A. Advanced generative ai methods for academic text summarization. In *2024 IEEE 3rd International Conference on Computing and Machine Intelligence (ICMI)*; IEEE: Piscataway, NJ, USA, 2024; pp. 1–7.
98. Gupta, R.; Pandey, G.; Pal, S.K. Automating government report generation: A generative ai approach for efficient data extraction, analysis, and visualization. *Digit. Gov. Res. Pract.* **2025**, *6*, 1–10. [[CrossRef](#)]
99. Anthropic. Claude Sonnet 4.5. 2024. Available online: <https://claude.ai> (accessed on 8 February 2026).
100. OpenAI. ChatGPT, GPT-5.2. 2026. Available online: <https://chat.openai.com/> (accessed on 8 February 2026).
101. Google. NotebookLM. 2026. Available online: <https://notebooklm.google.com/> (accessed on 8 February 2026).

Disclaimer/Publisher’s Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.