UDC 004.8:778.56:778.52
DOI https://doi.org/10.24919/2308-4863/87-3-23

Stanislav KHARA,
orcid.org/0009-0001-1358-7686
Photographer / Videographer
Studio Khara, Studio Cupid
(7725 Gateway, CA, USA) stanislavkhara@example.com

GENERATIVE AI TECHNOLOGIES IN PHOTOGRAPHY AND VIDEO RECORDING OF WEDDING EVENTS

In the context of the rapid development of generative artificial intelligence technologies, it is important to study the transformation of professional activities in the field of wedding photography and videography. The purpose of the study is to analyze the impact of generative solutions on the workflows of photographers and videographers, as well as to formulate recommendations for their effective and safe integration. The methodological basis is a systematic review of scientific publications, a comparative analysis of the traditional and innovative production process, SWOT analysis, and the results of expert interviews with practitioners. The study found that the use of artificial intelligence technologies significantly reduces the post-processing time for photos (through automated frame selection, batch settings, and local generative changes) and videos (through automatic synchronization of multi-camera material, rough editing, generative augmentation, resolution improvement, and slow interpolation). It was found that the integration of artificial intelligence at the stages of preparation (reference analysis, stylistic calibration), shooting (intelligent autofocus, tracking drones), editing (sky replacement, noise reduction, improved clarity) and delivery (personalized galleries, automatically generated photo collages and video previews) ensures increased productivity, improved service quality and the ability to focus on creative tasks. The SWOT analysis allowed us to outline potential benefits (acceleration of processes, stable technical quality, expansion of creative tools), risks (the need to acquire new competencies, technological dependence, standardization of style), opportunities (expanding the range of services, partnerships with technology companies, entering remote markets) and threats (devaluation of creative work, uncertainty in the field of copyright , ethical and security challenges). Summarizing the results, we can consider generative technologies as an effective tool for optimizing and innovating the industry, which requires further development of ethical standards, updating professional training, and creating a regulatory framework for intellectual property protection.

Key words: *generative artificial intelligence, wedding photography, videography, production process automation, diffusion models, neural networks, ethical standards.*

Станіслав ХАРА,
orcid.org/0009-0001-1358-7686
фотограф / відеограф
Studio Khara, Studio Cupid
(7725 Gateway, CA, USA) stanislavkhara@example.com

ГЕНЕРАТИВНІ AI-ТЕХНОЛОГІЇ У ФОТОГРАФІЇ ТА ВІДЕОЗЙОМЦІ ВЕСІЛЬНИХ ПОДІЙ

У контексті стрімкого розвитку генеративних технологій штучного інтелекту актуальним постає дослідження трансформації професійної діяльності у сфері весільної фотографії та відеозйомки. Мета дослідження полягає в аналізі впливу генеративних рішень на робочі процеси фотографів і відеографів, а також у формулюванні рекомендацій щодо їх ефективної та безпечної інтеграції. Методологічну основу становлять систематичний огляд наукових публікацій, порівняльний аналіз традиційного та інноваційного виробничого процесу, SWOT-аналіз і результати експертних інтерв'ю з практикуючими фахівцями. У результаті дослідження встановлено, що застосування технологій штучного інтелекту сприяє суттєвому скороченню часу постобробки фотографій (завдяки автоматизованому відбору кадрів, пакетним налаштуванням та локальним генеративним змінам) і відео (через автоматичну синхронізацію багатокамерного матеріалу, чорновий монтаж, генеративне доповнення, покращення роздільної здатності та уповільнену інтерполяцію). Виявлено, що інтеграція штучного інтелекту на етапах підготовки (аналіз референсів, стилістичне калібрування), зйомки (інтелектуальні автофокуси, дрони з функцією трекінгу), редагування (заміна неба, зменшення шуму, покращення чіткості) та передачі матеріалів (персоналізовані галереї, автоматично згенеровані фотоколажі та відеопрев'ю) забезпечує зростання продуктивності, підвищення якості послуг і можливість зосередитися на творчих завданнях. Проведений SWOT-аналіз дозволив окреслити потенційні переваги (прискорення процесів, стабільна технічна якість, розширення креативного інструментарію), ризики (потреба в оволодінні новими компетентностями, технологічна залежність, стандартизація стилю), можливості (розширення спектра послуг, партнерство з технологічними

компаніями, вихід на віддалені ринки) та загрози (девальвація творчої праці, невизначеність у сфері авторського права, етичні та безпекові виклики). Узагальнення результатів дозволяє розглядати генеративні технології як ефективний інструмент оптимізації та інноваційного оновлення галузі, що вимагає подальшої розробки етичних стандартів, оновлення професійної підготовки та створення нормативно-правової бази для захисту інтелектуальної власності.

Ключові слова: *генеративний штучний інтелект, весільна фотографія, відеозйомка, автоматизація виробничих процесів, дифузійні моделі, нейронні мережі, етичні стандарти.*

Problem statement. The intensive development of generative AI technologies has opened up new opportunities in photography and video, in particular for wedding events. Algorithms capable of generating or supplementing images and video frames significantly reduce the processing time of hundreds of photos and hours of material, but at the same time call into question traditional ideas about the authenticity and artistic value of wedding documentation (Anantrasirichai & Bull, 2022; Amankwah-Amoah et al., 2024).

Generative diffusion models are now creating photorealistic images that are difficult to distinguish from the footage (Rombach et al., 2022; Dhariwal & Nichol, 2021). At the same time, the number of services that automatically edit video from multiple cameras or smartphones is growing on the market, changing the role of a wedding videographer from an operator to a controller of AI solutions (Li et al., 2023). Therefore, the challenge is to find a balance: how to use the speed and scale of AI without losing customer confidence in the authenticity of wedding photos and videos?

Analysis of recent research and publications. Initial research on generative models began with the introduction of GANs, which opened up new horizons for photorealistic image synthesis. Goodfellow et al. (2020) laid down the architecture of the generator and discriminator, which laid the foundation for further improvements. Style adaptations, such as StyleGAN, allowed for controlling the levels of detail and stylization across different layers of the generator (Karras, Laine, & Aila, 2019; Karras et al., 2020), resulting in the quality of the generated faces becoming an «industry standard» for artistic projects.

A new wave of diffusion models has demonstrated better stability and detail than GANs. Ho, Jain, and Abbeel (2020) described the principles of building denoising diffusion models, and Dhariwal and Nichol (2021) showed that such models outperform GANs in photorealistic fusion (Dhariwal & Nichol, 2021). The review by Croitoru et al. (2023) summarized various variants of diffusion architectures, emphasizing their advantage in scenarios where detail and the absence of mode collapse are important.

The application of generative technologies in the creative industries includes not only image synthesis but also integration into workflows. Anantrasirichai and Bull (2022) systematized the main approaches to the use of AI in creative professions, and Amankwah-Amoah et al. (2024) outlined the challenges and opportunities for media and marketing, emphasizing the need for research on ethical and legal aspects. Hartmann, Exner, and Domdey (2024) expanded on this in a marketing context by substantiating the potential of generative AI to create "superhuman" visual content.

The video industry is also experiencing rapid evolution. The Video Transformer architecture (Minderer et al., 2021) and advanced diffusion models for video (Song & Ermon, 2021) pave the way for the generation of short snippets or clips. Li, Chen, and Wang (2023) conducted a survey of current real-time video upscaling methods, and Huh et al. (2025) presented the VideoDiff system, which works with humans to generate editing options based on wedding video templates.

The most general systematization of GANs in the creative and design industries was published by Hughes, Zhu, and Bednarz (2021), who analyzed human + AI collaborative models. In terms of semantic synthesis, Park et al. (2019) demonstrated the use of spatially adaptive normalization to create images from cartographic sketches. Thus, the current literature covers a wide range of generative technologies – from basic architectures to practical integration into photography and video recording of wedding events.

The object of study is the process of professional photography and video recording of wedding events in the context of generative AI technologies.

The subject of the study is generative AI technologies and their impact on the workflow of wedding photographers and videographers, the quality of the material received, and the professional role of performers.

The purpose of the article is **to** analyze the possibilities of applying generative artificial intelligence technologies in wedding photography and videography, to assess their impact on traditional approaches and results, and to outline the prospects and risks of integrating AI into this field.

To achieve this goal, the following tasks need to be accomplished:

1. Analyze modern generative AI technologies in wedding photography, their functionality, and examples of use (from automatic image selection and editing to generation of new images).

2. Compare the traditional and AI-integrated workflow of a wedding photographer, identify differences at each stage (shooting, processing, post-production), and summarize them in a comparison table.

3. To develop a conceptual scheme of AI integration into the workflow of a wedding photographer, showing the sequence of stages and interaction of the photographer with AI tools to increase efficiency (in the form of a flowchart).

4. To explore the possibilities of applying generative AI in wedding video shooting, including automated multi-camera video editing, template-based video creation, and other aspects of wedding video post-processing.

5. Perform a SWOT analysis of the introduction of AI in wedding photography, identifying the strengths and weaknesses of such technologies, as well as opportunities and threats for the industry and professionals.

Summary of the main material. In wedding photography, AI primarily automates shot selection and post-processing, significantly reducing the photographer's work time (Anantrasirichai & Bull, 2022; Amankwah-Amoah et al., 2024). Instead of hours of manual sorting, computer vision algorithms evaluate sharpness, exposure, and other technical parameters, leaving only the most successful shots for manual review.

At the editing stage, generative models are integrated into photo editors, automating routine operations. For example, AI retouching removes skin imperfections with minimal human intervention, and the sky replacement function instantly substitutes picturesque backgrounds while maintaining the realism of the scene (Croitoru et al., 2023).

In addition, services trained on the photographer's signature style can apply toning and color correction to the entire series of images in batches. This ensures the same artistic style across all photos and further saves time on adjustments (Rombach et al., 2022).

Generative AI technologies open up new creative possibilities for wedding photographers. Diffusion models can turn real shots into paintings, generate fantasy backgrounds, or add elements (flowers, light effects) to uniquely style photo books and slideshows (Rombach et al., 2022; Dhariwal & Nichol, 2021). Besides, AI-inpainting allows to «reanimate» bad shots: open closed eyes or remove foreign objects in the background, automatically filling the cavities with photorealistic content (Croitoru et al., 2023). Tools such as Generative Fill in Photoshop demonstrate how diffusion algorithms can supplement or replace photo fragments with a single click.

At the same time, generative AI creates new challenges. Excessive automation leads to the unification of styles: many photographers use the same algorithms, losing their individuality (Anantrasirichai & Bull, 2022). It also raises the ethical dilemma of the «truthfulness» of the image: how much is allowed to change wedding photos without distorting the memory of the event? Changing the background or significantly retouching the image may make it more beautiful, but will it still be an authentic testament to the moment? These questions do not yet have definitive answers and require professional discussion.

Let's look at the workflow of a wedding photographer. It consists of a number of stages – from preparing for the shoot to delivering the finished photos to customers. The introduction of AI technologies affects most of these stages, changing the nature and duration of the work performed. To illustrate, compares traditional and AI-integrated workflows of a wedding photographer in Table 1.

Preparing for the shoot. Traditionally, a photographer has to agree on a shot plan, routes, and must-have stories with clients. Today, AI systems analyze previous albums, suggest angles and poses, and predict the sequence of events based on similar weddings, helping to avoid missing anything and saving time on reference search (Amankwah-Amoah et al., 2024).

Photography. During the ceremony, AI-autofocused cameras track faces and maintain sharpness in dynamic scenes, while drones autonomously frame the couple and avoid obstacles. Although more "generative" functions (angle recommendations, duplicate shooting) are still in development, AI is currently complementing rather than replacing the photographer's skills (Li et al., 2023).

Frame selection. Instead of 1–2 days of manual review of thousands of photos, AI algorithms filter them by clarity, exposure, and facial expressions, cutting out duplicates and bad shots. The photographer checks only the recommended "best" shots, reducing the sorting time by several times (Anantrasirichai & Bull, 2022).

Editing. AI packages automatically apply basic corrections (exposure, contrast, white balance) to the entire series, and generative models remove defects (spots, shadows) or unnecessary objects. Manual work is transformed into quality control and creative revisions where the algorithm has made mistakes (Croitoru et al., 2023; Rombach et al., 2022).

Table 1

Comparison of traditional and AI-integrated approaches

Stage	Traditional approach	AI-integrated approach
Preparation	Manual collection of wishes, search for references	AI analysis of past works and references, generation of stylistic presets
Shooting	Photographer's intuition and experience, basic autofocus	AI autofocus and drones with face tracking, a key shot reminder app
Personnel selection	Manually review thousands of photos (1-2 days)	Quickly filter takes and bad shots by sharpness, exposure, facial expressions
Edit	Individual settings for each shot	Batch presets, inpainting, noise reduction, super resolution; error control only
Transmission	Flash drive or link, manual organization	Automatic grouping by person/story, AI-generated slideshows and video collages

Source: compiled by the author based on Amankwah-Amoah et al. (2024), Anantrasirichai & Bull (2022), Croitoru et al. (2023), Li et al. (2023).

Delivery to customers. Instead of a flash drive or a simple online gallery, AI grouping by personality allows you to create individualized selections for guests, and automatic slideshows and video collages of key moments increase the value of the service and attractiveness for social media (Li et al., 2023).

Everywhere, routine tasks are being given to algorithms, and the role of the photographer is shifting to creative control and communication with the client.

Below, we present a generalized workflow of a wedding photographer integrated with AI tools in Figure 1. The diagram shows the sequence of actions and decisions from preparation to completion of the project, as well as the points at which generative or other AI technologies are involved to increase efficiency. The key stages of this process are described below.

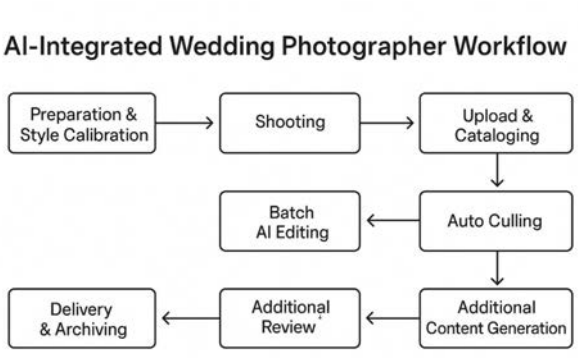

Figure 1. Workflow of a wedding photographer with an integrated AI system

Source: created by the author

The photographer starts by preparing and calibrating the style by collecting the couple's wishes and training the AI editor on their past work in terms of color, contrast, and tonal curves (Amankwah-Amoah et al., 2024). If necessary, the system analyzes reference images (e.g., Pinterest boards) and generates presets that match the specified style (Rombach et al., 2022).

During the shooting, AI-autofocus cameras and drones with tracking algorithms ensure the clarity of the shots in the dynamic, and mobile apps can remind guests missing from the frame in real time through face recognition (Li et al., 2023). After importing the footage into the cloud, AI automatically groups the shots by location or subject, adds labels ("ceremony," "dance," etc.), and cuts off technically unsuccessful shots by sharpness or exposure (Anantrasirichai & Bull, 2022).

Batch processing uses AI presets for basic adjustments (exposure, white balance, color), local generative functions (horizon alignment, noise reduction, inpainting), and adaptive retouching that preserves the texture and uniformity of the series (Croitoru et al., 2023). Additionally, AI creates slideshows or short video collages of the highlights, and an interactive gallery automatically groups photos by person, making it easier for guests to access their own photos (Li et al., 2023). This allows the photographer to focus on creative control, leaving the routine to algorithms (Amankwah-Amoah et al., 2024).

Wedding videography is even more labor-intensive than photography, so AI solutions have great potential here. Shooting multi-camera footage and subsequent editing often takes weeks: now cameras with AI autofocus and drones with tracking modes provide clear shots at key moments (Li, Chen, & Wang, 2023).

AI algorithms significantly optimize editing. First, they automatically synchronize frames based on audio or images from different cameras (Huh et al., 2025). Secondly, based on scene and sound recognition, the systems offer rough cuts: exchange of vows, first dance, toasts, etc., and generate «previews» with music and basic transitions (Huh et al., 2025; Minderer et al., 2021).

Generative models complement post-processing as well: frame-by-frame inpainting removes unwanted

objects (Vondrick, Pirsiavash, & Torralba, 2016[1]), and noise reduction and upscaling neural networks improve video quality up to 4K (Dhariwal & Nichol, 2021). Slow-motion interpolation creates smooth, slow-motion fragments (Song & Ermon, 2019).

Full automation is still unattainable due to the need to preserve the emotional integrity of the story. The AI assistant performs the rough work, but the role of the director remains with the human, who controls the key moments and adds an individual touch to the final video (Li et al., 2023).

For a comprehensive assessment of the impact of AI technologies on wedding photography, it is advisable to conduct a SWOT analysis that covers the internal strengths and weaknesses of the technology, as well as external opportunities and threats associated with its implementation. Below are the main results of this analysis, and the results are summarized in Table 2.

Strengths: Generative AI significantly improves photographer productivity. Routine stages of work (selection, color correction, retouching) are performed faster, which reduces post-processing time from several days to several hours. The algorithms ensure consistently high quality of technical performance: no misses with focus or exposure in the final photos, and a uniform style of the series. AI opens up new creative tools – from generating unique content (for example, artistic compositions) to realistic correction of defects in previously unusable shots. As a result, customer service improves: couples receive more photos processed better and faster. From a business perspective, an AI-enabled photographer can handle more orders per unit of time or pay more attention to product creativity. Research also confirms that properly configured AI can achieve quality as good as human, and sometimes even better (in the context of certain technical criteria). Thus, AI technologies provide wedding photographers with a powerful toolkit to increase efficiency without sacrificing quality.

Weaknesses: The main internal drawback is dependence on technology and possible failures. Working with AI requires new skills from the photographer: you need to learn how to properly configure algorithms and understand their limitations. If the model is not finalized or trained on someone else's style, the results may not meet expectations, and it will take time to correct errors. Uniformity and loss of individuality is another risk: using generic AI presets can make the style of photos from different photographers look similar. There are also creative limitations: generative AI works on the basis of learning from past data, so it tends to offer boilerplate solutions that have performed well in the past but are not necessarily unique to a given couple or event. Also, AI is not able (at least not yet) to fully understand the emotional context – it can reject a technically imperfect shot at the selection stage, even though it carries a strong emotional moment. Without human control, there is a risk of losing such photos. On the practical side, the cost of AI is also important: software costs money, often works on a subscription basis, and a powerful computer or cloud services for neural networks is an additional financial burden on the photographer. Not all small studios can afford it at the moment. So, although AI speeds up the work, it adds complexity to the development and certain new cost items.

Opportunities: The application of AI technologies opens new horizons for the development of the wedding photography business. First, photographers can differentiate their services by offering customers something unique: instant slideshows of photos right at the banquet, personalized photo collections for guests, artistic posters with AI effects, etc. This creates additional value and can justify a higher price of services. Secondly, the potential for cooperation between photographers and tech companies is growing it is possible to participate in beta testing of new AI products, partner programs with software developers, which not only generates income but also keeps photographers at the peak of progress. Thirdly, generative AI allows experimenting with new genres and styles within wedding photography. For example, creating "fairy-tale" photo manipulations (a bride in the image of a princess in a castle) can become a separate niche. Some newlyweds will want to receive several fantasy pictures generated by AI based on their photos along with the classic reportage. It used to be very expensive (an artist retoucher was needed), but now it is more affordable. Besides, AI optimization allows wedding photographers to expand the geography of their work: they can process photos remotely and quickly fulfill orders, which is important if you shoot in different cities or countries. In general, AI is becoming a catalyst for innovation in the wedding industry, and those professionals who are the first to master it will be able to take a leading position in the market by offering a modern, technological approach.

Threats: Along with opportunities, the introduction of AI poses significant threats, mostly external. The most discussed one is the risk of displacement of the profession. If customers see that AI services can automatically create acceptable photos or videos, part of the audience may refuse the services of photographers, relying on amateur photos improved by a neural network. There are already predictions

that fully automated multi-camera shooting and editing systems may make wedding videographers unnecessary. Even if this is an exaggeration, the value of human work may be devalued, as customers are inclined to pay less "for pressing a button that a computer can do." Another threat is legal and ethical issues. The use of generative content may infringe copyrights (for example, if an AI model is trained on other people's images, the question of the legality of its results arises). The legal framework does not yet regulate who is the author of the generated image – the photographer who set up the AI or the developer of the algorithm. This can lead to conflicts when publishing or commercializing such works.

Ethical issues relate to the reliability of memories: excessive "enhancement" of reality in a photo (rejuvenation of faces, cleaning of objects) can distort the memory of an event over time. Some clients may have a negative perception of the fact that their wedding photos have been significantly modified by AI, considering it a fraud. Finally, technical threats cyberattacks or failures in cloud-based AI services can jeopardize entire projects (data loss or leakage of confidential photos). Considering that wedding photos are private, there is a risk that uploading them to a third-party AI system will violate privacy if there are no appropriate data protection guarantees. Thus, when implementing AI, photographers should proactively think about risk management: explain to clients what AI does and how it does it, obtain consent for processing, and take care of safe storage of materials.

The SWOT analysis shows that generative AI technologies in wedding photography have significant positive potential (strengths and opportunities), including increased efficiency, expanded creative range, and new services. At the same time, the existing drawbacks and threats point to the need for a balanced implementation: those professionals who can integrate AI as an auxiliary tool without compromising their artistic vision and customer trust will be successful. A photographer who uses AI should remain a guarantor of quality and ethics, and not turn into a software operator. The next section draws general conclusions about the role of generative AI in wedding photography and video and its prospects.

Conclusions. Generative artificial intelligence technologies are rapidly penetrating the creative sphere, and wedding photography and videography are no exception. The study has shown that the introduction of AI into the workflow of a wedding photographer dramatically changes the balance between routine technical tasks and the creative component. Thanks to AI, a significant part of monotonous work – selection of good shots, basic editing, sorting, and even preliminary video editing – can be performed automatically with high accuracy and speed. This allows photographers and videographers to reduce processing time, increase content production, and ensure a consistently high technical level of their work.

The analysis of recent research and practices has shown that generative AI is able to outperform humans in certain image quality parameters (sharpness, noise absence, correct exposure, etc.), as well as offer new forms of content that were previously unavailable or too difficult to create. On the other hand, it has been confirmed that full automation of wedding photography is not yet achievable without losing the uniqueness and emotionality of the final product. The human

Table 2

Main results of the SWOT analysis

SWOT Category	Key Points
Strengths	– Significant reduction in processing time (days → hours) – Stable technical quality – New creative tools – Improving service and capacity
Weaknesses	– Customization dependency and resource intensity – The need for new skills, the monotony of style – Imperfect understanding of the emotional context – Additional costs for equipment
Opportunities	– Differentiation of services (shows, posters) – Partnerships with technology companies – New genres (fantasy manipulations) – Remote processing and market expansion
Threats	– Devaluation of professional labor through automation – Uncertainty of authorship and legal risks – Ethical issues of the reliability of memories – Security and privacy risks

Source: summarized by the author based on Amankwah-Amoah et al. (2024), Anantrasirichai & Bull (2022), and Croitoru et al. (2023)

factor – the photographer's vision, ability to notice live emotions and subtleties of the moment – remains a critical element that AI cannot replace. The optimal model of cooperation is «human + AI», where artificial intelligence acts as a smart assistant: it performs rough work and offers solutions, while humans make final creative decisions and are responsible for the result.

The study formulated five specific tasks and successfully implemented them. Modern AI tools for wedding photography (automated selection, retouching, image generation) were analyzed and their effectiveness in practice was demonstrated. Comparison of traditional and AI-oriented workflows has clearly demonstrated the key differences: the former requires more time and manual labor, while the latter relies heavily on algorithms, allowing the photographer to focus on creativity. The proposed conceptual scheme of the integrated workflow can serve as a basis for professionals planning to implement AI in their activities. The author analyzes the case of wedding video shooting separately: it is noted that the effect of AI may be even more tangible given the complexity of video editing; however, the risks (in particular, the possibility of losing a job) are more acute here. The conducted SWOT analysis summarized the advantages (speed, scalability, new services) and disadvantages (dependence on technologies, risk of style unification), and outlined external factors that facilitate or threaten the spread of AI in the wedding industry.

In general, the results of this work allow us to draw a number of important conclusions for theory and practice. First, generative AI should not be viewed as a threat but as a tool that, if used properly, enhances the photographer's capabilities and expands the boundaries of his or her creativity. Secondly, educational institutions and professional unions should develop programs to train photographers in new technologies, as the demand for such skills will grow. Thirdly, ethical standards need to be updated: for example, transparency regarding the use of AI in the processing of wedding photos so that customers understand how the algorithm contributes to their memories. Fourth, it is worth continuing scientific research in this area, in particular, to monitor how AI affects the viewers' perception of wedding materials and whether aesthetic criteria are changing in the era of human-machine co-creation.

In conclusion, we can say that generative AI technologies have already begun to transform wedding photography and video. The future of this industry probably lies in the close integration of creative human talent with the power of artificial intelligence. Wedding photographers who manage to embrace these changes and use AI to improve their skills will remain in demand and competitive. Human inspiration and empathy, multiplied by the accuracy and speed of AI, can together create even more impressive and moving love stories in photos and movies.

BIBLIOGRAPHY

1. Amankwah-Amoah J., Abdalla S., Mogaji E., Elbanna A., Dwivedi Y. K. The impending disruption of creative industries by generative AI: Opportunities, challenges, and research agenda. *International Journal of Information Management*. 2024. Vol. 64. P. 102759. DOI: https://doi.org/10.1016/j.ijinfomgt.2024.102759.

2. Anantrasirichai N., Bull D. Artificial intelligence in the creative industries: A review. *Artificial Intelligence Review*. 2022. Vol. 55. P. 589–656. DOI: https://doi.org/10.1007/s10462-021-10037-6.

3. Croitoru F.-A., Hondru V., Ionescu R. T., Shah M. Diffusion models in vision: A survey. *IEEE Transactions on Pattern Analysis and Machine Intelligence*. 2023. Vol. 45, No. 9. P. 10850–10869. DOI: https://doi.org/10.1109/TPAMI.2023.3261988.

4. Dhariwal P., Nichol A. Diffusion models beat GANs on image synthesis. *Advances in Neural Information Processing Systems*. 2021. Vol. 34. P. 8788–8801. DOI: https://doi.org/10.48550/arXiv.2105.05233.

5. Goodfellow I., Pouget-Abadie J., Mirza M., Xu B., Warde-Farley D., Ozair S., Courville A., Bengio Y. Generative adversarial networks. *Communications of the ACM*. 2020. Vol. 63, No. 11. P. 139–146. DOI: https://doi.org/10.1145/3422622.

6. Hartmann J., Exner Y., Domdey S. The power of generative marketing: Can generative AI create superhuman visual marketing content? *International Journal of Research in Marketing*. 2024. (in press). DOI: https://doi.org/10.2139/ssrn.4597899.

7. Ho J., Jain A., Abbeel P. Denoising diffusion probabilistic models. *Advances in Neural Information Processing Systems*. 2020. Vol. 33. P. 6840–6851. DOI: https://doi.org/10.48550/arXiv.2006.11239.

8. Hughes R. T., Zhu L., Bednarz T. Generative adversarial networks–enabled human–artificial intelligence collaborative applications for creative and design industries: A systematic review of current approaches and trends. *Frontiers in Artificial Intelligence*. 2021. Vol. 4. Article ID 604234. DOI: https://doi.org/10.3389/frai.2021.604234.

9. Karras T., Laine S., Aila T. A style-based generator architecture for generative adversarial networks. *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition*. 2019. P. 4401–4410. DOI: https://doi.org/10.1109/CVPR.2019.00486.

10. Karras T., Laine S., Aittala M., Hellsten J., Lehtinen J., Aila T. Analyzing and improving the image quality of StyleGAN. *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition*. 2020. P. 8110–8119. DOI: https://doi.org/10.1109/CVPR42600.2020.00813.

11. Li X., Chen Y., Wang X. Deep learning for real-time video super-resolution: A survey. *IEEE Transactions on Circuits and Systems for Video Technology*. 2023. Vol. 33, No. 5. P. 2001–2023. DOI: https://doi.org/10.1109/TCSVT.2022.3206013.

12. Minderer M., Yang X., Trofimov D., Song Y., Courville A., Ranzato M. Video transformer for video generation. *arXiv preprint*. 2021. DOI: https://doi.org/10.48550/arXiv.2103.13840.

13. Nichol A., Dhariwal P. Improved denoising diffusion probabilistic models. *arXiv preprint*. 2021. DOI: https://doi.org/10.48550/arXiv.2102.09672.

14. Park T., Liu M.-Y., Wang T.-C., Zhu J.-Y. Semantic image synthesis with spatially-adaptive normalization. *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition*. 2019. P. 2337–2346. DOI: https://doi.org/10.1109/CVPR.2019.00244.

15. Peng S., Kalliamvakou E., Cihon P., Demirer M. The impact of AI on developer productivity: Evidence from GitHub Copilot. *arXiv preprint*. 2023. DOI: https://doi.org/10.48550/arXiv.2302.06590.

16. Rombach R., Blattmann A., Lorenz D., Esser P., Ommer B. High-resolution image synthesis with latent diffusion models. *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition*. 2022. P. 10684–10695. DOI: https://doi.org/10.1109/CVPR52688.2022.01042.

17. Song Y., Ermon S. Maximum likelihood training of score-based diffusion models. *Advances in Neural Information Processing Systems*. 2021. Vol. 34. P. 14192–14203. DOI: https://doi.org/10.48550/arXiv.2011.13456.

REFERENCES

1. Amankwah-Amoah, J., Abdalla, S., Mogaji, E., Elbanna, A., & Dwivedi, Y. K. (2024). The impending disruption of creative industries by generative AI: Opportunities, challenges, and research agenda. *International Journal of Information Management, 64*, 102759. https://doi.org/10.1016/j.ijinfomgt.2024.102759

2. Anantrasirichai, N., & Bull, D. (2022). Artificial intelligence in the creative industries: A review. *Artificial Intelligence Review, 55*, 589–656. https://doi.org/10.1007/s10462-021-10037-6

3. Croitoru, F.-A., Hondru, V., Ionescu, R. T., & Shah, M. (2023). Diffusion models in vision: A survey. *IEEE Transactions on Pattern Analysis and Machine Intelligence, 45*(9), 10850–10869. https://doi.org/10.1109/TPAMI.2023.3261988

4. Dhariwal, P., & Nichol, A. (2021). Diffusion models beat GANs on image synthesis. *Advances in Neural Information Processing Systems, 34*, 8788–8801. https://doi.org/10.48550/arXiv.2105.05233

5. Goodfellow, I., Pouget-Abadie, J., Mirza, M., Xu, B., Warde-Farley, D., Ozair, S., Courville, A., & Bengio, Y. (2020). Generative adversarial networks. *Communications of the ACM, 63*(11), 139–146. https://doi.org/10.1145/3422622

6. Hartmann, J., Exner, Y., & Domdey, S. (2024). The power of generative marketing: Can generative AI create superhuman visual marketing content? *International Journal of Research in Marketing.* (in press). https://doi.org/10.2139/ssrn.4597899

7. Ho, J., Jain, A., & Abbeel, P. (2020). Denoising diffusion probabilistic models. *Advances in Neural Information Processing Systems, 33*, 6840–6851. https://doi.org/10.48550/arXiv.2006.11239

8. Hughes, R. T., Zhu, L., & Bednarz, T. (2021). Generative adversarial networks–enabled human–artificial intelligence collaborative applications for creative and design industries: A systematic review of current approaches and trends. *Frontiers in Artificial Intelligence, 4*, Article 604234. https://doi.org/10.3389/frai.2021.604234

9. Karras, T., Laine, S., & Aila, T. (2019). A style-based generator architecture for generative adversarial networks. *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition*, 4401–4410. https://doi.org/10.1109/CVPR.2019.00486

10. Karras, T., Laine, S., Aittala, M., Hellsten, J., Lehtinen, J., & Aila, T. (2020). Analyzing and improving the image quality of StyleGAN. *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition*, 8110–8119. https://doi.org/10.1109/CVPR42600.2020.00813

11. Li, X., Chen, Y., & Wang, X. (2023). Deep learning for real-time video super-resolution: A survey. *IEEE Transactions on Circuits and Systems for Video Technology, 33*(5), 2001–2023. https://doi.org/10.1109/TCSVT.2022.3206013

12. Minderer, M., Yang, X., Trofimov, D., Song, Y., Courville, A., & Ranzato, M. (2021). Video transformer for video generation. *arXiv preprint.* https://doi.org/10.48550/arXiv.2103.13840

13. Nichol, A., & Dhariwal, P. (2021). Improved denoising diffusion probabilistic models. *arXiv preprint.* https://doi.org/10.48550/arXiv.2102.09672

14. Park, T., Liu, M.-Y., Wang, T.-C., & Zhu, J.-Y. (2019). Semantic image synthesis with spatially-adaptive normalization. *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition*, 2337–2346. https://doi.org/10.1109/CVPR.2019.00244

15. Peng, S., Kalliamvakou, E., Cihon, P., & Demirer, M. (2023). The impact of AI on developer productivity: Evidence from GitHub Copilot. *arXiv preprint.* https://doi.org/10.48550/arXiv.2302.06590

16. Rombach, R., Blattmann, A., Lorenz, D., Esser, P., & Ommer, B. (2022). High-resolution image synthesis with latent diffusion models. *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition*, 10684–10695. https://doi.org/10.1109/CVPR52688.2022.01042

17. Song, Y., & Ermon, S. (2021). Maximum likelihood training of score-based diffusion models. *Advances in Neural Information Processing Systems, 34*, 14192–14203. https://doi.org/10.48550/arXiv.2011.13456