

Retraction

Retracted: The Application of Artificial Intelligence Wireless Network in Music Contextual Teaching under the New Media Art Perspective

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This article has been retracted by Hindawi following an investigation undertaken by the publisher [1]. This investigation has uncovered evidence of one or more of the following indicators of systematic manipulation of the publication process:

- (1) Discrepancies in scope
- (2) Discrepancies in the description of the research reported
- (3) Discrepancies between the availability of data and the research described
- (4) Inappropriate citations
- (5) Incoherent, meaningless and/or irrelevant content included in the article
- (6) Peer-review manipulation

The presence of these indicators undermines our confidence in the integrity of the article's content and we cannot, therefore, vouch for its reliability. Please note that this notice is intended solely to alert readers that the content of this article is unreliable. We have not investigated whether authors were aware of or involved in the systematic manipulation of the publication process.

Wiley and Hindawi regrets that the usual quality checks did not identify these issues before publication and have since put additional measures in place to safeguard research integrity.

We wish to credit our own Research Integrity and Research Publishing teams and anonymous and named external researchers and research integrity experts for contributing to this investigation.

The corresponding author, as the representative of all authors, has been given the opportunity to register their

agreement or disagreement to this retraction. We have kept a record of any response received.

References

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WILEY WINDOw

Research Article

The Application of Artificial Intelligence Wireless Network in Music Contextual Teaching under the New Media Art Perspective

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Technological growth has resulted in simplifying various tasks previously considered tedious jobs by humans. Artificial intelligence technology has increased and is being appointed to reduce the burden of handling charges by assisting humans in their tasks. The artificial intelligence technology integrated with the wireless network systems is designed to teach music with the help of new media art. New media art is referred to as artwork that deploys new media technologies for its production. Some of the new media technologies are as follows: animation, computer graphics, digital art, video games, sound art, and interactive art. New media art is different from the traditional visual arts, such as paintings, sculptures, and architecture. The new media art is gaining popularity and has become an unavoidable technology. In this article, people will research the application of artificial intelligence and wireless networks in the music context of teaching under the vision of new media art. The integration of AI and wireless network technology with new media art in the music teaching field is more advantageous than the traditional methods of music teaching. The integration model Convolutional Neural Network Art Algorithm (CNNAA) is a CNN algorithm to train and test the music teaching in the context of new media art such as technological involvement such as 4G and 5G for faster data transfer in the wireless communication. The proposed model is compared with the existing fuzzy logic, neural network (NN), and K-Nearest Neighbour (KNN) for the training and testing of the model for an accurate teaching process. The results show that the CNNAA has obtained a higher accuracy of 98% and 99% for training and testing.

1. Introduction

Content processing has had a significant impact on several industries, particularly the music and audio industries, due to its ability to manage massive amounts of data. Audio input poses a unique set of challenges for machine learning because of its high temporal resolution and long-term patterns [1]. Rather than focusing on music, early advances in machine learning in a music focused on voice analysis. As a result of their massive datasets, streaming services, music production companies, and university archives have increasingly specialized studies in the music industry [2]. These technologies are employed in a wide range of applications connected to the conception and creation of music. To produce music using computer-aided approaches, input data (musical scores) distinctive to a particular style or composer is typically required. Compilation tools can extract composition patterns from current scores to generate new compositions [3]. To create new music that sounds like the music samples, one must first study the structural patterns in a series of musical pieces and then use those patterns to create new music. The software and music industries and the art world, among other sources, encourage these technologies to grow increasingly complex and expressive as they go outside of academia [4]. Musical compositions are often constructed by modifying audio, such as loops or samples, but the score is often one of the most significant components.

Recent developments in digital music technology have made it possible for musicians to save certain sounds from recordings and discard others selectively. Over the last two decades, scientists have been investigating the issue of music demixing and believe they have found a scientific solution to it [5]. It is still challenging to control the synthesis of meaningful, rich sounds and music under this paradigm [6]. Because it allowed for the generation of new types of graphics, style transfer was a fascinating technological tool in image processing. It is possible to transform an audio composition or score into another example of the desired style through musical style transfer while maintaining its qualities [7]. For example, tango music can sound like a rock song and remove the saturated vocals from a rock song. In recent years, classical music recordings have been used as raw audio inputs for audio processing. In music composition, timbre transmission and long-term temporal reliance (which differ in scope between styles) remain essential issues. As a modern scientific challenge, the application of artificial intelligence to music creation has yet to be fully realized. Because of the lack of large datasets for training systems in music, it is more challenging to construct a system that can learn from music than developing a system that can learn from images [8]. Obtaining music data that can use to annotate audio recordings, such as multitrack data, may be difficult. When it comes to multitrack data quality, there are certain benefits to using Lakh MIDI and some drawbacks to using DSD100. Using YouTube's AudioSet for music research is terrible because it incorporates general-purpose audio processing rather than music analysis [9]. Artificial intelligence (AI) in musical compositions has grown in recent years. Hello World, a newly published album, features sound compositions created by an artistic director using artificial intelligence (AI) as a creative tool [10]. Jukedeck's features allow musicians to produce and customize their own music content for usage in the music industry. New creative tools for musicians and producers and faster music production processes are a primary focus of the project [11]. Additionally, musicians can design their instruments by attaching sensors to common household items and demonstrating to the system how they want the instrument to sound [12].

Computer animation and nonphotorealistic graphics can also be created using artificial intelligence [13]. Deep learning algorithms, which excel at tasks like applying filters and transferring styles, have been hypothesized to lead to new ways of creating art [14]. Deep Dream, a work of art based on artificial intelligence, was a big step forward in the discipline. To identify and refine patterns in photos, an algorithmic pareidolia and a convolutional neural network are used. To activate a trained deep network, visuals that have been highly processed are designed to appear psychedelic [15]. AI-made art is distinct from the original and provokes significant emotional responses from viewers, even though it is created using Deep Dream's image input. First and foremost, Deep Dream intends to shed light on the underlying workings of neural networks and how they achieve categorization tasks [16]. They experimented with letting the network decide which qualities to emphasize and which to disregard rather than prescribing a particular property. The network is supposed to improve based on what it observes after receiving a photo or photo for evaluation [17]. In a network, each layer interacts with features at a different level of abstraction, which impacts the capacity to

build complex features quickly. The final images depict the network has observed certain information in each region of the images, even though what the network has observed is unlikely to be present at that specific location [18]. The network appears to perceive objects in the clouds, even though this is physically impossible. Some dreams can be developed from the experiences of the network's participants. The dreams generated by neural networks that have been trained on different images will be diverse even if the same image is used as input [19]. Most generative methods are based on Generative Adversarial Networks (GANs). An image generator and an image discriminator are used in conjunction with a uniform distribution to generate images [20]. GAN has been used in a wide variety of contexts since its inception. Graphics for a single class were the first use case for GANs (Generalized Autonomous Neural Networks) (such as a specific number, person, or type of object). Since these discoveries were made, artificially intelligent pastiches or pieces of art based on another artist's style have been created.

One theory suggests that the GAN model may be used to discover the stylistic and content differences between various works of art and creatively combine this information and produce new works of art [21]. It is a unique and fascinating field of study that uses captions to create pictures. Photorealistic and art photography will most likely use the same techniques, but that is not guaranteed. There are always different possibilities. Be prepared to put in a lot of time to produce high-quality images [10]. When images have a high level of resolution, it becomes more difficult to tell them apart from those taken by humans. As recently demonstrated by Nvidia, increasing the size of both the generator and the discriminator yields remarkable results. However, this is not the typical practice. Artificial intelligence (AI) applications to images include everything from increasing image quality and editing photos to retrieving and annotating photos [22]. The use of artificial intelligence in creating scene-dependent image alterations, such as those made by human retouchers, has been successful. With the help of an extensive database, a system for learning how to conduct picture changes was demonstrated. However, these processes can be successfully replicated even if there are no formal explanations for them. Automated picture retouching has also been offered to improve image quality [23]. The use of photo editing software can significantly enhance the quality of a photograph. As a result, this technique requires considerable time and expertise. However, it is now possible to edit images using artificial intelligence like a skilled professional.

Automated photo correction can be used for integrating deep learning and manually created attributes. While other systems do not consider this, this one does, and it is a big difference [24]. Using deep learning-based algorithms, it has recently become possible to alter an existing photograph while maintaining the original data. This can be done, for example, by making a snapshot look like a Miro artwork. Using Deep Neural Networks, high-quality images can be produced. It is possible to utilize an algorithm to extract style information from photographs, allowing them to adapt and generate artistic styles from current images based on that knowledge [25]. There is no detailed study about the intelligence sensor networks in the music under the perspective of new media art. This study focused on evaluating the music context teaching under vision of new media art using deep learning technique.

This paper is organized into four sections. Section 1 presents the introduction and background of the study. Sections 2 and 3 discuss the results and discussion of the study. Section 4 highlights the conclusions of the study.

2. Materials and Methods

The proposed system in Figure 1 uses an integrated approach that constitutes wireless networks and artificial intelligence in music teaching with the help of new media art. The wireless network is a computer network that enables the users to use the wireless data connections for their devices. The wireless network allows a node to node data communication. The artificial intelligence of wireless networks is a point to teach music with the help of multimedia, especially the new media art. Artificial intelligence is defined as the utilization of computer systems to perform tasks requiring human intelligence, such as speech recognition, decision-making, visual inspection, and translation. Artificial intelligence technology constitutes various subbranches such as technology and deep learning technology.

New instruments for creativity and development are continually appearing due to the rapid progress of technology. Machine learning, in which computers learn over time by being fed enormous amounts of data, is now being used by musicians to create music in new and unique ways. Machine learning techniques can complement many aspects of the music curriculum, including musical performance, composition, theory, and production. Machine learning in music education can enhance the learning experience and add new levels. Deep learning is a field of machine learning designed to do tasks comparable to those performed by humans or to replicate human behavior. Artificial neural networks are used in this technology to complete tasks. This technology can observe things and do activities that are taught to it. Deep learning technology can do jobs such as image identification, speech and language assistance, virtual assistants, interactions, and driverless cars using machine vision technology. This technology is being used to accomplish an increasing number of sophisticated actions.

New media art is defined as artwork that uses a digital tool such as multimedia art, digital painting, and computer graphics. The art that uses the digital version of the traditional method of arts is referred to as multimedia art. Digital painting is done with various software, web tools, etc. The art done in computer modeling and rendering techniques to create virtual motion picture is termed computer graphics. Interactive art is also used in new media art. These are arts that involve human interaction. The art done using the internet as a medium is called internet art. It is generally done with the help of websites. The art which shows statistical data is termed information art. Art done using mathematics is termed algorithmic art. The music teaching is

done with the help of wireless networks such as 4G and 5G. Devices such as mobiles with wireless data connections are used as carriers in the music teaching field. Students with smartphones can access the music teaching course without any Hustle. The music teaching involves recorded videos audios hand practice music notes. The multimedia is used to teach the students about music. This teaching technique involves all the discussed types of new media art. The traditional music teaching method involves the presence of the music teacher and the students in the classroom setup. The proposed methodology makes use of wireless networks and artificial intelligence technology in music teaching, which is done online. The main advantage of the artificial intelligence (AI) is to automate the process of teaching process for music teaching according to the requirement of the students. There is no offline teaching in the proposed method. This advanced new media art is deployed in music teaching, and successful results were obtained in the teaching when compared to the traditional method of music teaching depicted in Figure 2.

A sequential transformation model has been used in conventional single image iteration, but a different take on such a different has been used to achieve multiple nesting boxes of identity. The linearization approach implements the image interchange, scalability, selling, precession, but also shearing strategies. The transfer function is depicted in Equation (1).

$$n' = \sum_{q=n} q_{00} \times q_{01} \times q_{02} + \int q_{00} * n + q_{01} * m + q_{02} \pm \int q_{10} * n + q_{11} * m + q_{12}.$$
(1)

n' and m' are also the image's true classification with predicted input, respectively, while q is the number generated classifications. Also, because Convolutional Neural Network Art Algorithm (CNNAA) is employed to speed up also as an optimization tool, the parameter intimation then evaluated by Equation (2).

$$m' = \sum_{q-n} q_{10} \times q_{11} \times q_{12} + \int q_{00} * n + q_{01} * km + q_{02} \pm \int q_{10} * n + q_{11} * kn + q_{12}.$$
(2)

The current number of repeat cycles is reduced to h. The revolutionary function is described using cross entropy, and indeed the formula appears to have as in Equation (3).

$$n'm' = \sum_{q=n} q_{00} \times q_{01} \times q_{02} + \int \sin \alpha \times -\cos \alpha + \int \cos \alpha \times \sin \alpha.$$
(3)



Because of the limited range of \cos and \sin items with in dataset data set, each opinion piece merely perfects the magnification (from Equation (4)) of such training phase, allowing the *u* is corrective frequency to be extremely high.

As a result, this model's initial rectification frequency was 30%, and thus, the corrective rate has gone up by 80% each two training cycles, according to the research.

$$S_{j}(n,m) = \sum s_{j}n + t_{j}m + t_{j}, k_{j}n \times \int \sin \alpha \times -\cos \alpha + \int \cos \alpha \times \sin \alpha.$$
(4)

$$S_{j}(n,m) = \int \tan a \times \tan \lambda \times \sum s_{j}n + t_{j}m + t_{j}, k_{j}n \times \int \sin \alpha \times -\cos \alpha.$$
(5)



FIGURE 3: DL cooccurrence network extraction characteristics for modern art performance musical.

TABLE 1: The extracted features from the music but also media art cross matrix as a result of data evaluation.

Parameter	Time (s)	DL pattern characteristics	Regular distribution
М	0.84	0.983	4.63
Ν	0.74	2.766	8.97
D	0.482	2.744	2.874
S	0.629	3.523	3.653

Its sum in Equation (5) is utilized to concrete compressive strength transfer function. tana and tan longitudinal vehicle splitting can be seen in Equation (6).

$$S_j(n',m') = \int \sin \alpha \times -\cos \alpha \times \sum f_j^{b=m} + D_j \pm \int \tan \alpha \times \tan \lambda.$$
(6)

The regular linear approach on a variable is established by altering affine matrix to fulfil the conditions in Equation (7) seems to be the outcome of initialization:

$$D_{j} = \int \tan a \times \tan \lambda + \left(\sum s_{j}n + t_{j}m + t_{j}, k_{j}n \times \sum f_{j}^{b=m} + D_{j}\right).$$
(7)

Because the translation of s_j and t_j is nonlinear, S_i is determined to be added to an overall iterative technique. $\int_j^m + D_j$ denotes a frequency analysis, k_j denotes the stop analysis, and D_j denotes the analyze the market.

$$S_j(n',m') = \sum_{i=1}^{j=1} D_i \times \left(\int s_j n + \sum t_j m + \sum t_j, k_j n + \int_j^m + D_j \right).$$
(8)

Furthermore, every dynamic system parameter S_i changes distinct characteristics of a graph and its structure (in Equation (8)). The translation impact is enhanced further by giving alternative weight coefficients S_{ij} to a dynamical affective relationship property S_i , as indicated in Equation (9).

$$S_j = \sum_i s_{ij} S_i \left(\sum s_j n + \sum t_j n + \sum t_j, k_j n + \int_n^m + D_j \right).$$
(9)

After conducting a transformation matrix on a sequence of data points (in Equation (9)), the dynamical transform is committed to a result of such an iterative technique. A comment that can control places is offered as a result of both the discrete wavelet transform and the continuous wavelet transform. The initial iterative approach of the dynamical result in Equation (10) can be used to derive a function Q_j (n, m).

$$Q_j = \int \sin \alpha \times -\cos \alpha \times \sum \left(n_j n + \lambda_j x + \sum \eta_j, \mu_j n + \int \vartheta_j m + \tau_j \right).$$
(10)

The repetition of the $Q_j j$ approach will be solely based on the significant improvement indicated in the prior section. Equation (11) for such procedure is as follows:

$$S_j = Q_j + \sum f_j^{b=m} + D_j \left(\sum_i s_{ij} S_i \left(\sum s_j n + t_j m + t_j, k_j n + \int_j^m + D_j \right) \right).$$
(11)

A distinct simplified iterative set of data is compelled to submit to first interpolation, then on to the discrete wavelet transform, μ , and finally to the subsequent evolutionary method, also known as respond. The aggregation nonlinear functional may be tuned to effectively manage that transform outcome of such discrete wavelet transform, and the highly nonlinear transitional coefficients u_{ij} can be altered to follow their Equation (12).

$$\sigma = \int \tan a \times \tan \lambda \pm \sum \sqrt{m^2 + n^2} + \sum s_j n + t_j m + t_j, k_j n.$$
(12)

This data analysis was completed by forwarding and beginning to reduce transmitted signal. Because the mass but rather the limit adjustment of each neuron in the hidden layered surface layer impacts if the response error satisfies



FIGURE 4: Art modern music statistics using the intelligent WSN online network-assisted teaching system.



FIGURE 5: Using the DL online teaching system and analyzed the performance for fine arts statistics.

the criteria during in the back procedure, dynamic adjustment, i.e., several different variants, is instructed to obey its Equation (13).

$$\theta = S_i \left(\sum s_j n + t_j m + t_j, k_j n + \int_j^m + D_j \right) + \sum_{n=1}^m \operatorname{art} \operatorname{tan} \left(\frac{m}{n} \right).$$
(13)

Traditional digital equipment, such as recording equipment but also projectors, are some of the most widely employed in current music but also communication art education, as shown in Equation (14); such equipment can also be used in home performance and media art education.

$$S_{1} = \int_{n=1}^{m} \sin \theta - \cos \theta + \sum_{t=1}^{n} (t_{1} * \sigma^{3} + t_{2} * \sigma^{2} + t_{3} * \sigma) \times \sum(m, n).$$
(14)

Educators might very well learn understanding sequentially but is also quickly with the very next workstation improvements; such a schooling technique could indeed increase the frequency of teaching and learning (Equation (15), assist students in learning such a large amount of material inside a short time, and maximise teacher performance.

$$S_2 = \sum_{n=1}^{m} \left(\sum f \sin \theta - \cos \theta * \sum_{n=1}^{m} \ln(m) \approx \frac{n}{1+m^2} \right). \quad (15)$$

Deep learning purpose with music and multimedia art education appears to be to expose art content to learners in a far more informed manner, to create a better educational environment, and to exhibit original design that incorporates technology using Equation (16).

$$S_3(m,n) = \sum_{n=1}^{m} (a\sin\theta - b\cos\theta)(m,n) \times \sum \sigma\sin\theta - \sigma\cos\theta.$$
(16)

3. Results and Discussion

A single iterative primitive DL approach is applied for both transform and nonlinear modifications. Self-designed and secondary translation and rotation are employed in practice. The founder matrix is used to prepare the image for several variations before selecting the best image (refer to Figure 3).

Parameter	Play time	Features of DL	Regular circulation	General (%)	Satisfied (%)	Unsatisfied (%)
Music 1	00:02:32	2.843	1.633	5	79	50
Music 2	00:02:26	1.943	1.563	3	73	30
Music 3	00:01:17	0.934	0.654	3	82	56
Music 4	00:01:11	0.964	0.864	1.7	83	45
Music 5	00:00:50	0.756	0.456	3.2	75	56

TABLE 2: Analysis of DL statistics results for the modern art online teaching system.



FIGURE 6: Accuracy analysis table for the CNNAA.

After that, the CNNAA loss-efficient approach is utilized to increase image quality and reduce noise. In comparison, image extracts obtained during instruction are especially valuable. They repeatedly avoid the problem of highly tilted images with incorrect weights, summarize the appropriate style load interval, and finally modify the variables to instantly render various types of fractal images, attempting to break the single music and media art form and realizing the additional growth of spatial frequency visual art.

The DL pattern characteristics of the parameters N and M are much more significant than two, as can be seen in Table 1, showing that the nonlinear and nonhighly accessible, consistent, and hence acceptable for digital picture operations are represented as M, N, D, and S. The photos suitable for mixing are screened out, and also, the splicing procedure begins. They are both distributed repeats and continuous cuts, as shown in Figure 4. This form of visual can be spliced by random places in parameters, as shown in Table 1, and can be scattered freely to produce the self-affine, absolute fineness, and the independent pattern properties of spectral graphics.

DL technology application is not yet sophisticated enough. Responses for learning technology, a computational model for new music and media art teaching, an effective educational partner in crime technology, and other ways that people desire to attain in art teaching are being investigated. To some extent, DL can assist people, and it may even consider replacing people's perspectives, which are precisely what distinguishes humans. People's meanings, behaviours, and symbolic analyses cannot be qualified by modern DL art instruction. Art forms develop and adapt with the times, but art's value remains constant. In terms of creation and recognition, works of art are often considered to as qualitative thinking; consequently, DL falls short in evaluating student art production in terms of visual enjoyment. The current DL-based art teaching is basically a simple realization of personalized spaces; it merely employs computers to achieve fundamental art instruction and can reflect the benefits of DL application in music and media art integration. We will only be able to fully utilize DL's huge potential for art education-learning-if we try to breach the chokepoint of DL, music, and media art education.

Because while traditional DL has increased students' academic progress and encouragement, it does not fully comprehend students' online learning. It can be tailored to each individual. It can ensure that all students participate in the learning process. As a result, it encourages educators to actively participate in the DL through online teaching, collects students' education programmes, provides various reference directions through private communication, makes DL technological advancements in that incorporate digital methods, and provides robust technical support for the education system, as shown in Figure 5.

The collected information has already been thoroughly studied in the established framework, and after fine-tuning, the required information to build Table 2 is retrieved, as shown in the table above. We might even learn from data in a table in a variety of ways: 65 music (song) datasets are really satisfied with the alternative, amounting for around 97% of the educational population, demonstrating clearly that the inquiry is more effective and that this framework appears to be more efficient.

Figure 6 depicts the most often used digital means in current education, which are conventional dispersed components such as recording equipment and video screens. Such instruments, however, can also be employed in at-home art teaching. Images, films, and other types of media could be used by teachers to bring music and media art to life. Students could learn more methodically and swiftly with modifications in computer components, using music dataset education as an example. Differences in computer components for education techniques can increase the number of learners, teach more content in less time, and raise the educator's efficiency. Incorporating DL into art instruction is a technique to improve how pupils are exposed to music and media art elements. Nonetheless, the intended music and media art teaching outcomes or teaching goals are difficult to fulfil due to a lack of DL device capabilities in art education.

TABLE 3: Result analysis accuracy analysis table of CNNAA.

Sample	Experiential result	0	Forecast	Correct rate (%)
Performance of training	0	99	38	92.64
	1	28	95	88.83
	Total proportion	77.23%	77.34%	93.76
Performance of testing	0	9	5	94.33
	1	5	6	78.96
	Total proportion	85%	43%	88.85



FIGURE 7: Comparison and performance analysis of different algorithms.

According to the data in Table 3, the classification performance of the interpolated CNNAA accuracy rate is 92.64%, and also, the accuracy rate is 88.83%. The first source of failure (unusual data is considered to be errors) in the training and test sets is 93.76% and 94.33%, respectively, and also, the second type of fault (regular data is recognized to be two types of information) is 78.96% and 88.85%, indicating that its model's validity can indeed be ensured to some extent.

Despite this, several past researches have focused on the implementation of models in WSN music and media art teaching. The existing system has issues with specific link implementation of art requirements or the construction of procedures. In contrast, failure to take into account the complete planning process WSN with DL technologies in music and media art instruction results in insufficient research on DL in art education. Inadequacy stems from compromising the integration of comprehensive and integrated initiatives. To that end, this research investigates the application of artificial intelligence in contemporary music and mainstream press art education through strategy analysis and data modelling utilizing inductive analysis and the similarities between DL and education. They evaluated existing methodologies such as fuzzy logic, NN, and KNN to a CNN algorithm accuracy framework, obtaining 98% and 99% overall performance for training and validation, respectively (see Figure 7).

4. Conclusions

Using new media art and artificial intelligence, the wireless network systems are developed to teach music. The term "new media art" refers to artwork created using new media technologies. A few examples of the newest forms of media are animation, computer graphics, digital art, games, sound art, and other forms of participatory and interactive art and media. Modern art created with new media is becoming increasingly popular and can no longer be ignored. This study proposed CNNAA model and obtained an accuracy of 93.5%. The study results proved that the use of AI and wireless network technology with new media art in music teaching is proven to be more beneficial than traditional techniques. For future research, it is highly recommended to implement hybrid algorithm for evaluating the accuracy in the interactive art.

Data Availability

The data used to support the findings of this study are available from the corresponding author upon request.

Conflicts of Interest

The authors declare that there are no conflicts of interest.

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