



Research Paper

Make Ideas Into Motion(MIIM) Using AI Technology

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Abstract:

Our main motivation for this project is to make content creation and consumption easier for people. The scope of the project applies to people with less attention span, visual discomforts, educationally underprivileged people, etc. This also greatly helps teaching professionals explain concepts better to kids as children always find visual content more engaging and easier to learn. There are several reasons why a software that converts text or any ideas to video may be useful in today's world. One of the main reasons is the increasing popularity of video content on social media platforms and the internet in general. Video content is more engaging and attention-grabbing than text, making it more likely to be shared and viewed by a larger audience. Additionally, a software that can convert text to video can be useful for creating marketing and promotional materials, educational content, and instructional videos. Furthermore, after the pandemic, the way we interact and consume information has shifted, more and more people prefer to consume information through videos, so a software that can convert text to video can be of great help in this situation. Currently, there are freelancers who would make a video for you based on your ideas or information, but the problem with this is that it is very expensive and time consuming. This is why our software is a much more economically feasible solution. The target demographic of our software is anybody that wants to create visual content that suits their work. It could range from educationally disadvantaged content creators to children with less attention span.

Keywords: Augmentation, NLP, GAN, encoding

Received 09 Apr., 2023; Revised 21 Apr., 2023; Accepted 23 Apr., 2023 © The author(s) 2023.
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I. Introduction:

The use of video programmes such as TikTok, YouTube, and Instagram for the aim of making money as well as for the sake of amusement has become widespread in the modern world. On the other hand, the production of a video can be an expensive and time-consuming procedure. As a solution to this problem, we have developed a free platform for the development of videos driven by artificial intelligence that can quickly implement your ideas into videos. No longer will you have to wait for hours, nor will you have to spend money on costly equipment. For the purpose of making your movies more appealing, our platform provides you with a variety of images, elements, voiceovers, template styles, aspect ratios, and custom talking avatars. Because the influencer marketing sector in India is expanding at such a rapid rate, this solution would be of particular advantage to new YouTubers and influencers.

Since there are currently several applications for text to image conversion, we have decided to exclude it as a possible intermediate step in this project. The production of videos will be our primary focus.

We have gleaned a lot of important information from the review of the relevant literature. To begin, we conducted research and came to the conclusion that the majority of internet users would rather watch videos than read articles. In addition, we have investigated a variety of models for the production of videos, and after doing so, we have decided to move on with deep learning because it is the method that is the most effective. We have also come to the realisation that the most widespread problem shared by all of the research publications is the absence of a sufficient dataset for the purpose of training. We are currently working on a dataset that is significantly more efficient, in addition to being larger and taking into consideration any possible biases.

II. Literature Survey:

Table-1: This table shows the literature survey of 30 papers based on major technology, its results and outcomes and drawbacks if any.

Problems Addressed	Findings and conclusions	Limitations	How our research can fill the gap
The authors address the problem of video generation from textual descriptions. This involves mapping text descriptions to visual representations in the form of video content [1].	One of the main challenges in video generation from text is to learn a mapping from textual description to visual representations. The authors discuss various approaches for addressing this challenge, including using recurrent neural networks (RNNs) and generative adversarial networks (GANs)	The project can only generate videos from small phrases	Our project uses machine learning models to generate video from huge articles and documents
The authors address the problem of video generation from textual descriptions, specifically exploring a step-by-step evolutionary generator for this task [2].	The authors propose TiVGAN, a new method for video generation from text that uses a step-by-step evolutionary generator to gradually refine the generated video. The authors evaluate the performance of TiVGAN on a dataset of textual descriptions of moving objects	There is still room for improvement in terms of the realism and diversity of the generated videos	We convert text to video directly, making it look more realistic and faster
The authors address the problem of teaching children with autism spectrum disorder (ASD) new skills and behaviors [3].	The authors present evidence that video modeling, a teaching method where children with ASD watch a video of a model performing a target behavior, can be an effective intervention for teaching new skills and behaviors.	Traditional video generation methods are tedious	Our software makes this process automated
The authors address the problem of understanding the current state of research on video-based learning (VBL) [4].	The authors provide an overview of the research published on VBL from 2008 to 2019, covering the various theories and approaches to VBL, as well as the strengths and limitations of this method of learning. The authors find that VBL has gained popularity in recent years.	No limitations as such	Our software would serve to be useful to this growing trend of VBL
The authors address the problem of automatically generating matter-of-opinion video documentaries from written text [5].	The authors propose a system for generating video documentaries that express opinions on a specific topic. The system takes as input written text and generates a video that includes images, text, and audio to present the opinions expressed in the text.	Their system is limited by the quality of the input text, and that the system may produce poor results if the text is poorly written or if the opinions expressed in the text are too complex to be effectively expressed in video form.	Our model will be trained by a variety of queries that ranges from very simple to complex, so that it can have more accuracy
The authors address the problem of understanding the perception of AI-generated faces compared to real faces [6].	The authors conduct a study to compare the perception of AI-generated faces to real faces. They find that participants are able to distinguish between AI-generated faces and real faces, with a higher accuracy for real faces.	No problems as such	We will be using this AI face generation technology to make the videos more realistic
The authors address the problem of developing an intelligent system for content generation [7].	The authors present the design and implementation of an intelligent system for content generation. The system is based on a machine learning algorithm that analyzes text inputs and generates new content based on this analysis	Potential for bias in the machine learning algorithm and the need for further development and testing	We will be using much more vast and quality testing data to compensate for biases

<p>They aimed to develop a solution that can generate e-learning content in a way that is customized to the needs of the learner, making the learning process more effective and engaging [8].</p>	<p>The authors proposed a system that uses semantic web technology to generate adaptive e-learning content. The system was able to analyze the learner's profile, learning style, and past performance to generate content that is customized to the learner's needs.</p>	<p>The study was limited by the technology available at the time and the limitations of semantic web technology.</p>	<p>We will be using AI for this purpose</p>
<p>The paper focuses on the development of an adaptive e-learning content generation system that uses semantic web technology [9].</p>	<p>The authors present a system that uses semantic web technology to generate adaptive e-learning content. The system is able to automatically generate content based on the student's learning style and current knowledge level. The system also allows for the creation of personalized learning paths for each student.</p>	<p>No limitations as such</p>	<p>We will be using this feature to generate content in case the user doesn't provide a document</p>
<p>This essay examines how changes in artificial intelligence are affecting live streaming, video delivery, and production. It explains how AI can be applied to content distribution, quality evaluation, and user experience customisation[10].</p>	<p>This paper discusses how artificial intelligence is changing video production, delivery and live streaming. It describes how AI can be used for content delivery, quality assessment, and personalization of user experience.</p>	<p>The main challenges are selecting key words to highlight in the video,</p>	<p>The media and cinema industries are significantly impacted by AI, from content delivery to viewing experience. New layers of interactivity and access to the content are created by AI.</p>
<p>AI-based video editing software saves users time and is highly efficient [11].</p>	<p>This paper discusses a program that uses AI to edit videos. The program is able to automatically focus on a person's face and edit only selected clips. This saves the user a lot of time and is highly efficient.</p>	<p>Can only make videos using your face.</p>	<p>Developed a program that uses AI and computer vision to automatically focus on the face of a person and edit only selected clips of the person to make a complete video.</p>
<p>Deep learning-based supervised approach to recommend similar documents based on the similarity of content still have a long way to mature [12].</p>	<p>This work introduces a supervised Deep Learning strategy to propose comparable documents based on content similarity. It develops a novel model to score and categorise document pairs as relevant or irrelevant using the C-DSSM model and Word2Vec distributed representations of words.</p>	<p>Can generate based on available resources in the internet.</p>	<p>A Deep Learning based supervised approach to recommend similar documents based on the similarity of content.</p>
<p>The approach used is very useful for storing, comparing and manipulating variety of data used in the e-learning system [13].</p>	<p>This paper demonstrates an expert content generation e-learning system. It includes an expert search engine and content generation. The approach is very useful for storing, comparing and manipulating variety of data used in the e-learning system.</p>	<p>Can generate based on available resources in the internet.</p>	<p>A proposed expert content generation e-learning system based on tree data structure using artificial intelligence. The system includes an expert search engine and content generation.</p>
<p>Artificial intelligence can develop the raw image by organization development of text input [14].</p>	<p>This paper discusses the role of artificial intelligence in generating video. It describes how computer vision can be used to develop raw images by processing text data.</p>	<p>The main challenges are selecting key words to highlight in the video, understanding the meaning of the text, and displaying them in a video showing only the relevant elements.</p>	<p>Artificial intelligence can be used to generate videos from text data using computer vision and deep learning.</p>
<p>The visual essence clip, the video essence clip corresponding to the audio, the main character clip, and the story outline can be edited to generate a trailer [15].</p>	<p>A new approach for creating video trailers automatically has been introduced. This method utilizes the optical flow vector sum, audio loudness amplitude, and character duration information to generate trailers. The method is based on the</p>	<p>The generated video has a length limit.</p>	<p>Easily generate a short video/trailer of texts given.</p>

	<p>flownet2 optical flow algorithm, cascade CNN face detection, and facenet face recognition algorithm. It can effectively edit the main character clip, visual essence clip, audio essence clip, and story outline to produce a trailer.</p>		
<p>A deep learning-based system is proposed to identify video scripts. Copy [16].</p>	<p>This research paper introduces a deep learning system named LWSINet, which uses a 6-layered CNN to identify video scripts. The system was evaluated using the CVSI-15 dataset, which is publicly available. To account for different types of noise that may affect scripts, the study also considered the effects of Salt & Pepper, Gaussian, and Poisson noise, as well as their hybridized forms. The test results demonstrate that the proposed CNN is accurate and dependable in identifying scripts in noisy and noise-free environments. For comparison, the study also evaluated the performance of various feature-based and deep learning algorithms that were manually created.</p>	<p>Not able to generate videos accurately.</p>	<p>CNN's ability to identify scripts in both scenarios, with and without noise</p>
<p>Finding an algorithm or piece of technology that can accurately determine whether or not a photo has been altered using DeepFake technology is the goal of this study [17].</p>	<p>This paper discusses methods of deepfake detection based on machine learning. It reviews different indicators that can be used to detect deepfakes and assesses the accuracy of these methods.</p>	<p>It could cause a significant issue if used in unethical ways.</p>	<p>Deepfake detection can be done using machine learning algorithms such as Convolutional Neural Networks (CNNs) and Generative Adversarial Networks (GANs). Deepfake detection can be done by analyzing the facial features of the image, such as facial symmetry, facial expressions, and eye movement.</p>
<p>At present, deep learning techniques enable the creation of facial images, swapping of faces between two individuals in a video, modification of facial expressions, gender transformation, and modification of facial characteristics [18].</p>	<p>This study proposes using the Convolutional Vision Transformer to detect Deepfakes. The model achieved a 91.5% accuracy rate after being trained on the DeepFake Detection Challenge Dataset.</p>	<p>The project was not able to achieve 100% accuracy</p>	<p>91.5% accuracy, 0.91 AUC, and 0.32 loss values were attained using the DeepFake Detection Challenge Dataset. (DFDC).</p>
<p>Deepfake technology can be used to change someone's face in a video, which has the potential to spark debate and strife between nations, especially when it comes to their voting systems [19].</p>	<p>This paper discusses the Deepfake technique, which is used for generating unauthentic spurious videos. It explains how the technique works and how to identify if a video is Deepfake. It also lists the advantages and disadvantages of Deepfake.</p>	<p>If it is utilized in unethical ways, this could lead to a serious problem.</p>	<p>Deepfake is a face video forgery technique based on AI technology which is used to generate unauthentic spurious videos.</p>
<p>The authors have generated a technology that converts text to video [20].</p>	<p>The authors described the T2V technology, which enables the automatic generation of computer-generated animation from text-based scripts. To promote user-generated material, they have developed a PC</p>	<p>They use only TVML script and FIL processing module.</p>	<p>Our project will be compatible with different languages and not just TVML.</p>

	<p>application called "T2V Player" that makes use of this technology and made it available as freeware. The T2V Player is built using Making Language (TVML), a computer language created to describe animation similar to that found in TV programmes.</p>		
<p>The authors aim to demonstrate the current research status of deepfake video detection, especially, generation process, several detection methods and existing benchmarks [21].</p>	<p>In recent years, deepfake technologies, which rely on deep learning, are developing at an unprecedented rate. Malicious faces manipulated videos generated by deepfake algorithms can be rapidly disseminated through the global pervasiveness of the Internet, threatening social stability and personal privacy. To this end, commercial companies and research groups worldwide are conducting relevant researches to reduce the negative impacts of deepfake videos on people</p>	<p>It has been revealed that current detection methods are still insufficient to be applied in real scenes, and further research should pay more attention to the generalization and robustness</p>	<p>We will be incorporating a better deepfake system in our software</p>
<p>The authors address the problem of generating video lectures for massive online open courses (MOOCs) using artificial intelligence (AI) [22].</p>	<p>The authors proposed an AI-powered MOOC system for video lecture generation. The system consists of two main components: natural language processing (NLP) and computer graphics. The NLP component generates a script from the lecture content and the computer graphics component generates the video</p>	<p>The current system has some limitations such as the difficulty of generating video lectures that involve complex graphs and diagrams, and the need for a large dataset to train the NLP component.</p>	<p>We will be using a much larger dataset for this purpose</p>
<p>This article describes how to create game content using deep learning (DL) techniques, which are neural networks with at least two layers and some nonlinearity [23].</p>	<p>The work surveyed in this paper is the result of convergent trends from the last few years like the increasing use of deep learning for generative tasks in non-game contexts, such as GANs and VAEs used for generating pictures of faces and RNNs used for generating voices and music.</p>	<p>This is basically just for game content generation.</p>	<p>Our project will have content generation for everything irrespective of the field.</p>
<p>The objective of this research is to examine deepfakes, including their definition and the individuals or groups responsible for creating them. Additionally, the study will explore the potential advantages and disadvantages associated with deepfake technology, provide some current examples of deepfakes, and propose potential solutions for mitigating their impact [24].</p>	<p>The study found that deepfakes are hyper-realistic films of humans saying and doing things that never happened. Generative Adversarial Networks (GANs) use discriminative and generative algorithms to compete and improve their performance, creating incredibly convincing fake videos.</p>	<p>Deepfakes require proof of authenticity as well as falsity. News media firms must authenticate videos in a trustless environment where the creator, origin, and distribution may be impossible to identify.</p>	<p>All the video will be authenticated via verification protocol.</p>
<p>This study uses deep-learning methods including RNN, CNN, and LSM to detect deepfakes. (LSTM). This survey will help researchers [25].</p>	<p>To recognise false movies and photos, deep learning systems must also improve. Current deep learning algorithms cannot determine the number of layers or architecture needed for deepfake detection.</p>	<p>Deepfake photos and videos are created daily due to the wide availability of applications and tools. Academic scholars find deepfake image and video analysis difficult. Researchers struggle with data quality.</p>	<p>We will judge the quality of the dataset beforehand</p>
<p>This study introduces deepfakes to marketing studies and presents a typology, conceptual</p>	<p>The paper advocates for balance, where all stakeholders benefit, and hopes to lay the groundwork for</p>	<p>No limitations as such</p>	<p>We will be using deepfake in our generated video to make it more realistic</p>

framework, and research agenda based on balanced centrality to guide future research [26].	future research and use of deepfakes as "a new hope" for marketing.		
This paper reviews existing Deepfake detection methods using traditional methods and deep learning technologies. Further this paper discusses the limitations of current methods and availability of datasets in the society [27].	DeepFake, which uses neural networks to capture, replay, and switch faces in videos, has raised concerns. Deepfake videos provide false content as real.	There is not a highly accurate and automated detection method to identify Deepfakes. The unavailability of an efficient Deepfake detection method is a big challenge to the world due to the ease of generating Deepfake videos and their rapid spread.	Our technology eradicates the problem by analysing high quality data
Artificial text in videos serves as a significant information carrier that is closely related to the video's subject matter [28].	This work proposes a video artificial text identification and extraction system. The approach uses horizontal difference magnitude and morphological processing. A 20-minute MPEG-1-encoded television programme is detected, localized, and recognised.	Video takes too much time to generate.	The 20-minute system detects and localises artificial text in video using horizontal difference magnitude measure and morphological analysis.

III. Proposed Work:

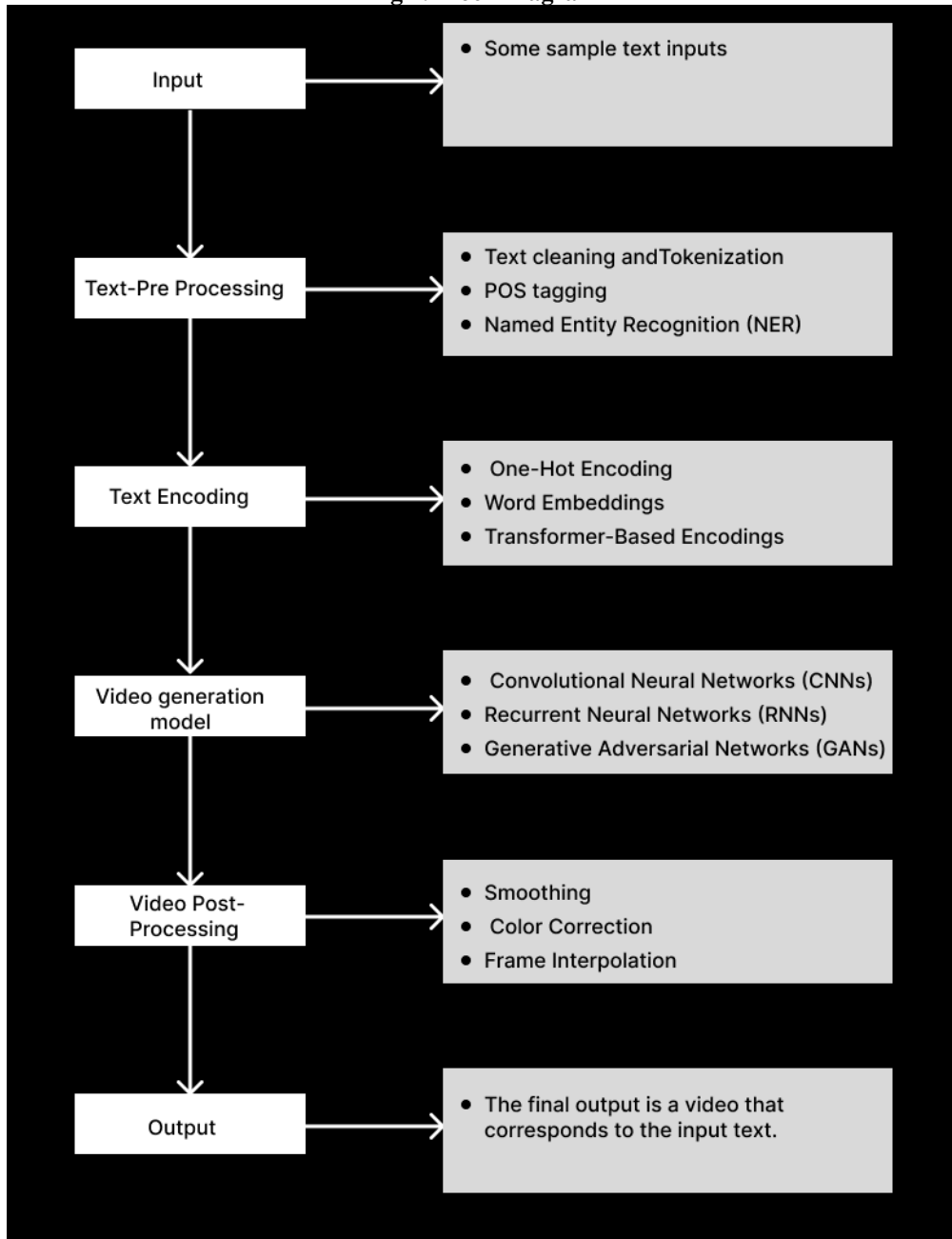
Converting text to video typically involves creating an animated video with accompanying audio, where the text serves as the script for the audio voiceover and visuals. The work typically involves the following steps:

1. Script Writing: Create a script based on the text, making sure to include important information and key messages.
2. Storyboarding: Sketch out the visual elements that will accompany each section of the script, such as illustrations, images, and animations.
3. Voiceover Recording: Record an audio voiceover to accompany the visuals, using the script as a guide.
4. Video Animation: Create the visuals, incorporating the storyboard and voiceover to create an animated video.
5. Post-Production: Edit and refine the video, adjusting the timing of the visuals and audio, adding music, and making any final tweaks to the overall video.

There are several algorithms and techniques used in text-to-video conversion, including:

1. Natural Language Processing (NLP): NLP algorithms are used to extract meaning and structure from text, and to generate an appropriate script for the video.
2. Text-to-Speech (TTS): TTS algorithms are used to generate an audio voiceover from the script, using artificial voices or pre-recorded human voices.
3. Video Generation: Machine learning algorithms, such as generative adversarial networks (GANs) or variational autoencoders (VAEs), can be used to generate animations and visual content that correspond with the audio and script.
4. Audio-to-Visual Alignment: Algorithms are used to synchronize the audio and visuals in the video, to ensure that the visuals and audio match up properly.
5. Post-Production: Machine learning algorithms can be used to perform tasks such as color correction, noise reduction, and image restoration, to improve the overall quality of the video.

Fig 1. Block Diagram



IV. Results and discussion:

The input

```
sideX: 1280
sideY: 720

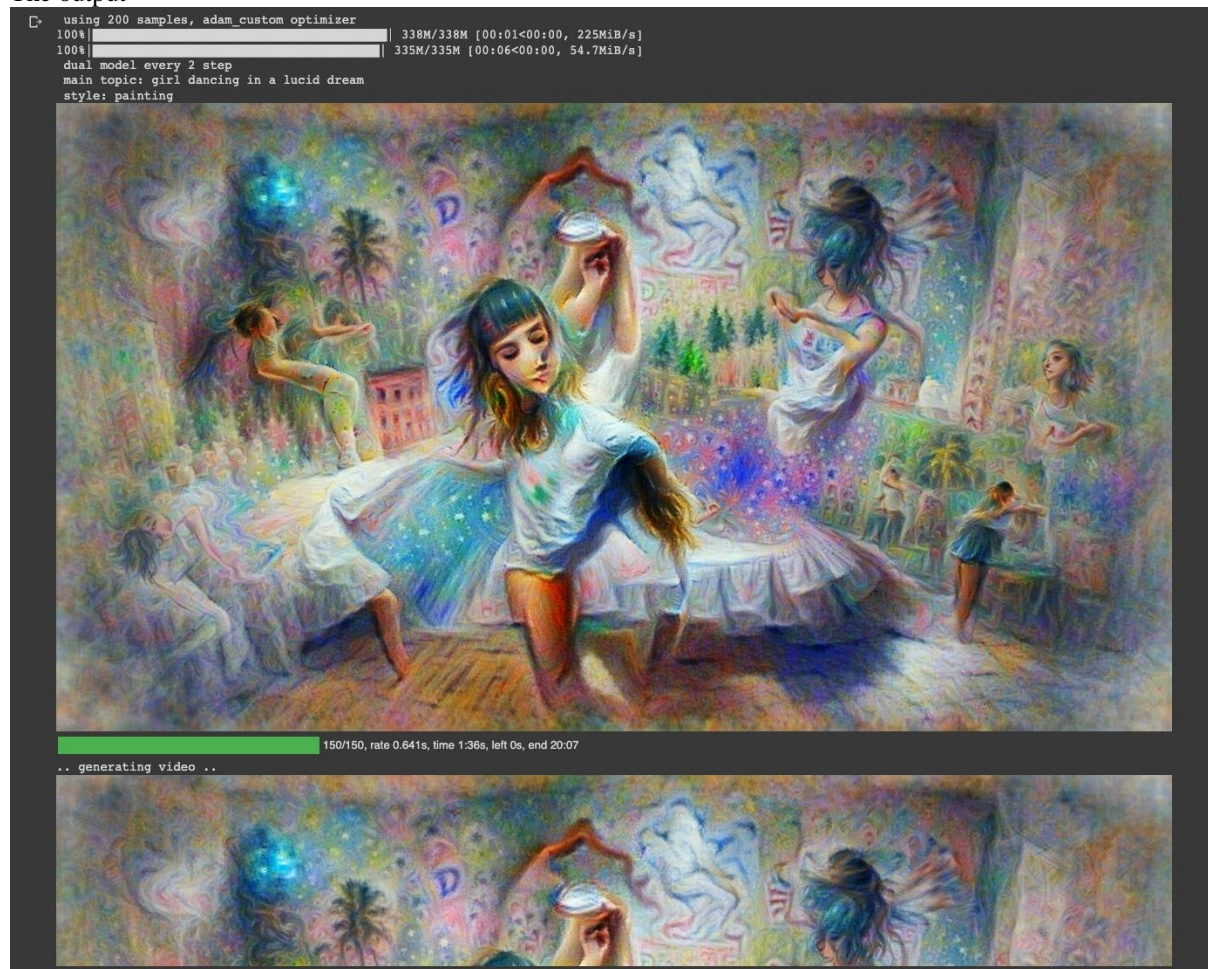
Config
model: dual
align: uniform
aesthetic: 1.
use_wavelets: 
wave: coif1
aug_transform: 
sync: 0.4

Look
decay: 1.5
colors: 1.8
contrast: 1.1
sharpness: 0

Training
steps: 150
samples: 200
learning_rate: .05
optimizer: adam_custom
save_freq: 1

Tricks
aug_noise: 0.
enhance: 0.
macro: 0.4
progressive_grow: 
```


The output



V. Conclusion:

The idea proposed in this paper can help convert ideas into short moving images, i.e., motion. It can help people visualise better. The most important step in the learning process is to perceive content. For the sake of that, the human brain converts what one perceives to a visual image. Unfortunately, there are people who are not capable of doing that. This arises due to neurological impairments, attention deficit hyperactivity syndrome, etc. For such people, this idea would help greatly. The motion images created using this idea could also be used for advertising and marketing purposes. By using motion images, companies can create engaging and interactive ads that capture the attention of their target audience. Furthermore, this idea can be applied in the field of education, where students can learn better by visualising concepts and ideas. The use of motion images in education can also help students with learning disabilities or difficulties. The idea proposed in this paper could revolutionize the way we communicate ideas and information. It could also have a positive impact on the film and entertainment industry, where motion images play a crucial role in storytelling. Moreover, this idea could be used to create immersive virtual reality experiences, enhancing the user's visual experience. Overall, this innovative concept has the potential to transform the way we perceive and interact with the world around us.

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