



GENIUS- A Revolutionary SaaS Platform Empowering Users With AI Capabilities

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Abstract. Although content creation has grown more accessible and diversified in the digital era, the process frequently involves navigating many tools and platforms. Addressing this issue, Genius emerges as an all-in-one platform that democratizes content creation by seamlessly merging advanced AI capabilities with Next.JS technology. Users can develop writing, music, films, photos, and code with ease thanks to its user-friendly interface and powerful Open AI prompts. Furthermore, with Google OAuth integration that ensures secure authentication, Genius promotes user safety while encouraging creativity. Customizable membership options cater to users of various skill levels, making AI-powered content creation more accessible. This investigation digs into the revolutionary power of Genius, highlighting its capacity to expedite content creation workflows, improve user engagement, and play a crucial part in developing AI.

Keywords: Image Generation, Video Generation, Conversation Generation, Music Generation, Stripe monthly subscription, Clerk Authentication, Next.js13, ReactJS, Tailwind, Prisma.

1 Introduction

Modern AI systems employ a range of methods (also known as AI subdomains) to carry out tasks similar to those performed by humans. Computer vision, Natural language processing (NLP), Deep Learning & Machine Learning and utilizing large data repositories to tackle complicated issues are a few examples. The rapid adoption of AI by businesses has created a fundamental problem: blind use of AI without a thorough knowledge of its benefits and limitations. Automation, data analytics, customisation, healthcare, cybersecurity, resource optimisation, and social equity would all suffer if AI was not included.

This study paper investigates Genius' revolutionary influence, including its ability to ease content creation processes, improve user experiences, and contribute to the democratization of AI technology. This model contains:

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- i. Conversation Generation, generating human-like dialogue. By interpreting input prompts, AI models generate contextually relevant responses that resemble normal conversation using machine learning models and natural language processing (NLP) approaches.
- ii. Image Generation, creates realistic images from scratch or based on specified parameters. Using techniques such as GANs and CNNs, create diverse and high quality. Using techniques like GANs and CNNs, create diverse and high-quality visuals.
- iii. Audio Generation, creating sound using artificial intelligence algorithms. By analysing patterns, AI models can generate new sounds, music, or speech by in previously recorded audio data.
- iv. Video Generation, creation of videos using artificial intelligence algorithms. Through text, AI models can create dynamic and lifelike video sequences.
- v. Code Generation, involves generation for code by analysing patterns in existing code-bases and understanding programming languages.

2 Literature Survey

In this paper, Matt-Sharifi, Qingqing-Huang, Aren-Jansen, Adam-Roberts, Marco-Tagliasacchi, Neil-Zeghidour, Christian-Frank, Andrea Agostinelli, Timo-I. Denk, Zalán-Borsos, Jesse-Engel, Mauro-Verzetti, Antoine-Caillon, proposed MusicLM, a model developed to produce music from textual descriptions [1], Jan Vom Brocke, Roope Jaakonmaki, Oliver Muller, proposed that the challenge of creating effective content for social media marketing campaigns by utilizing analytics on user-generated content [2], Jennifer Haase, Paul Hanel challenges the prevalent notion that Artificial Intelligence lacks creativity. Through a comparative analysis of human-generating ideas and those generated through 6 Generative AI chatbot, including Copy.ai, alpa.ai, Chat-GPT Studio.ai, and You-Chat, they found no qualitative difference in creativity[3], Peter Fettke, Julius Kopke proposed that pioneers the use of ChatGPT, particularly the latest GPT-4 models, in conceptual modeling. They run experiments to create and Business Process, ER interpret, UML class diagrams, and some Heraklit designs [4], Alexander Maedche, Christine Legner, Alexander Benlian, Benedikt summarizes discussions from the International Conference on Wirtschaftsinformatik (WI 2019) regarding AI-based digital assistants [5], Kristina Hall, Stefan Decker, Henner-Gimpel, Torsten Eymann proposed that Executive Summary Generative AI technologies, have potential to revolutionize higher education learning and teaching [6], In Mingwei Liu, Yiling Lou, Xueying Du introduced CodeGen4Libs, a novel technique consisting of importing generations and code generation stages. Evaluating large dataset demonstrates significant improvements over baseline models, indicating CodeGen4Libs' potential to enhance software development efficiency and effectiveness [7], Taylor Vahey addresses the growing trend of influencer marketing and its implications for content creators aiming to monetize their online presence. While existing literature focuses mainly on audience and marketing perspectives [8], Yaniv Taigman proposed effective spatial-temporal modules to enhance T2V model performance, achieving results in both qualitative & quantitative evaluations. This method accelerates T2V model training, eliminates the need

for paired text-video data, and inherits the diversity of modern image generation models [9], Omar Elharrouss, Somaya Al-ma'adeed , Mohamed Elasri proposed the comprehensive overview of existing image generation methods, categorizing them based on algorithms, data types, and objectives [10],explores by burger b and his team, the contemporary significance of artificial intelligence (AI) in academic research, emphasizing its role in enhancing diverse research methodologies. It particularly delves into the application of AI within systematic literature reviews (SLRs), offering actionable insights for integrating AI tools into the research process effectively [11],Chen L, Zaharia M, Zou J, investigates the evolving behavior of GPT-3.5 and GPT-4 over time, focusing on their performance across diverse tasks. By analyzing versions from March and June 2023, the aim is to discern patterns of behavior change and performance fluctuation in these large language models (LLMs),[12], Gilardi F, Alizadeh M, Kubli M examines the efficacy of ChatGPT compared to crowd workers in text-annotation tasks. Through an evaluation of ChatGPT's performance against human annotators, the study aims to demonstrate the potential of AI-based solutions in improving efficiency and accuracy in text annotation [13],J, Schwenzow J, Witte M, investigates the political inclinations embedded within conversational AI, focusing specifically on ChatGPT. Through a synthesis of evidence, the research aims to elucidate ChatGPT's ideological , revealing a propensity towards pro-environmental and left-libertarian perspectives[14],Stefan Feuerriegel, Jochen Hartmann, Christian Janiesch, Patrick Zschech and purpose of this article is to conceptualize generative AI within socio-technical systems, focusing on its impact on business and information systems engineering (BISE), [15]provide insights into the current state of generative AI, its applications, limitations, and suggest a research agenda for BISE scholars to address its unique challenges and opportunities

3 Methodology

This proposed presented in figure 1, used Next.js 13, React, Tailwind CSS, Prisma, Stripe.

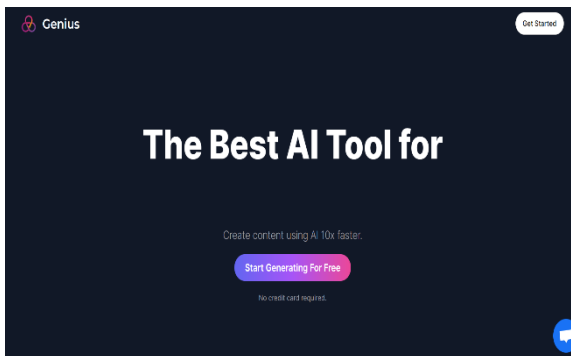


Fig 1: Start page

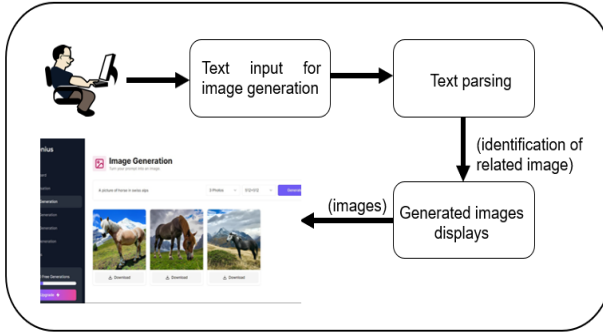
- i. Next.js, Vercel's Next.js open-source framework enables React-based web apps with server-side rendering (SSR) and static site generation (SSG).
 - ii. React, Facebook's implementation of the JavaScript user interface framework React. Its main goal is to provide dynamic and interactive user interfaces for online applications. Many businesses and developers utilize React.js to create cutting-edge, interactive web applications.
 - iii. Tailwind, a CSS framework that offers a very adaptable and effective method for creating contemporary user experiences. Tailwind CSS provides a set of utility classes that you may apply straight to your HTML elements, in contrast to standard CSS frameworks that include pre-designed components.
 - iv. Prisma, open-source database tool-kit that makes it easy to work with databases in your application. It offers an auto-generated, type-safe query builder that is specific to your database schema. Prisma supports various databases like PostgreSQL, MySQL and SQL Server.
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- v. Stripe, platform for online payment processing that enables companies to take payments online. Businesses may process payments, manage subscriptions, and handle other financial activities with its range of payment APIs. Stripe's scalability, security, and ease of use make it a popular choice.

Integrating Prisma and Stripe into a Next.js project allows for a seamless user experience, where users can manage their subscriptions, make payments, and access premium features of the SaaS AI platform securely and efficiently.

3 PROPOSED MODULE

The aim of the proposed SaaS AI platform is to provide a comprehensive and user-friendly solution for leveraging artificial intelligence tools and services. This model contains five main features to empower users to unleash their creativity, and build a thriving community of creators and innovators.

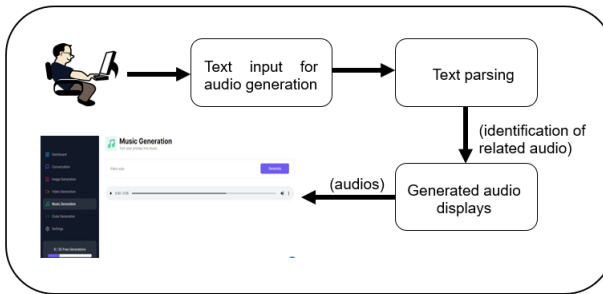
- Image Generation, this feature is responsible for generating images based on textual descriptions or prompts, shown in figure 2. These models are capable of creating unique and creative visual content, which can be used in various applications, from design to entertainment.



Project flow of Image generation

Fig 2: Flow of image generation

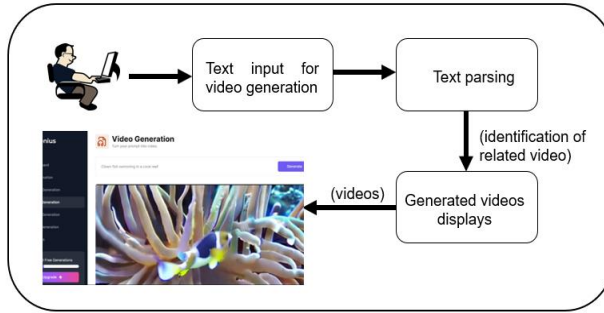
- Music Generation, this feature involves creating raw audio such as speech or music. This process can be achieved through various models and techniques, each with its unique features and capabilities. Flow of Audio generation shown in fig 3.



Project flow of Audio generation

Fig 3: Flow of Audio generation

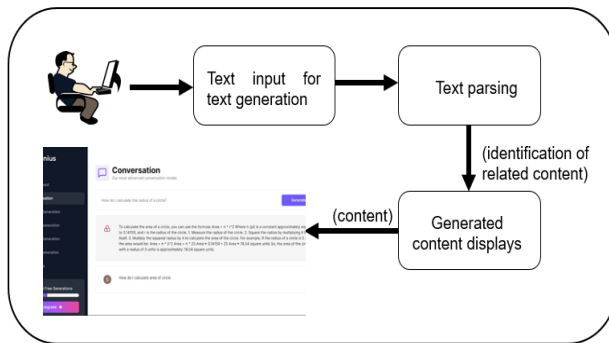
- Video Generation, this feature designed to generate video sequences through the input parameters that resemble the characteristics of the training data, utilizing deep learning techniques to learn from existing video data, as in figure 4.



Project flow of Video generation

Fig 4: Flow of video generation

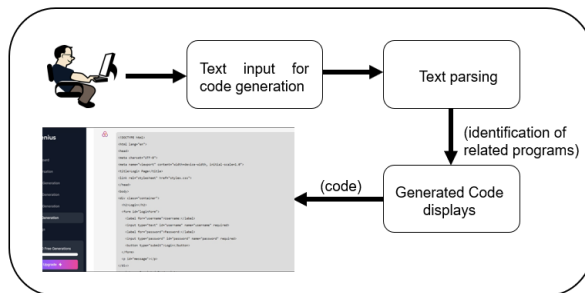
- Text Generation, this feature involves creating new text based on given inputs. This process can be used for various applications, including completing sentences, generating stories, as in figure 5.



Project flow of Text generation

Fig 5: Flow of text generation

- Code Generation, this model is designed to automate the creation of program code. This process can significantly enhance productivity, simplify development, ensure consistency, and improve portability across different platforms and languages, shown in figure 6.



Project flow of Code generation

Fig 6: Flow of code generation

Advantages

- Access to Cutting-Edge AI Technologies: This model allows customers to use a variety of AI tools and software on a single platform.
- It delivers great performance and is scale-efficient.
- It offers robust security features like data encryption and robust authentication.

4 Architecture

The following figure 7 illustrates the flow of actions involved in executing the proposed model, showcasing the sequence of steps to be followed throughout.

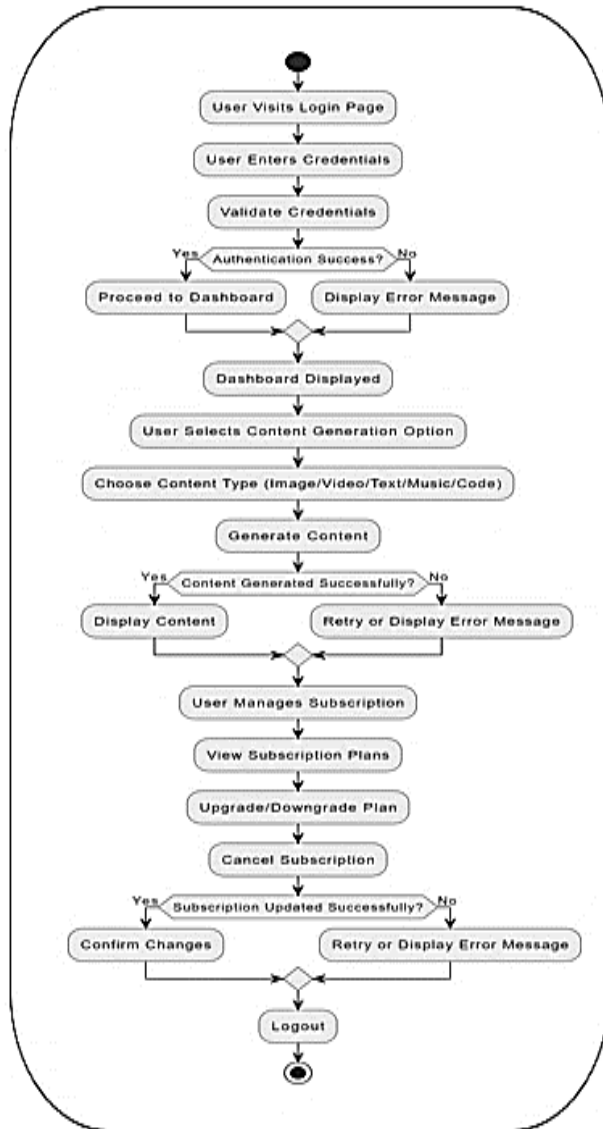


Fig.7. Architecture of the proposed method

4 Implementation Process

The proposed system is implemented using Open AI for Image generation & Conversation generation, Replicate AI for Video generation & Music generation. It also provides Clerk Authentication, which offers a seamless and secure way for users to access our platform, providing multiple authentication options to suit their preferences. And

also, it offers a convenient and flexible subscription model powered by Stripe, allowing users to access premium features and services on a monthly basis.

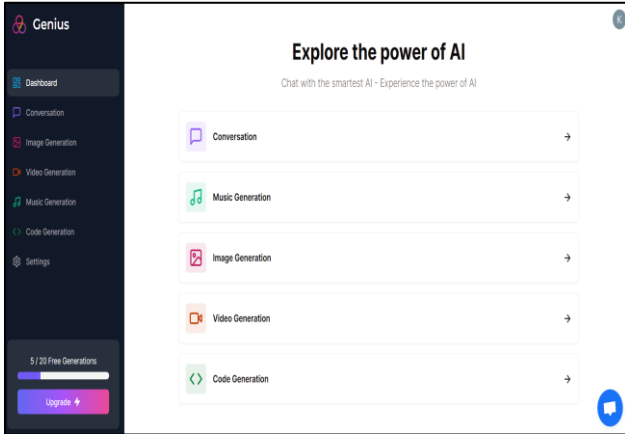


Fig 7. Genius Dashboard

Project flow of Image generation

Whenever users provide input parameters through text, these parameters will guide the Open AI image generation process, where advanced algorithms interpret the inputs and generate accurate images that align based on specified criteria. And these generated images will display on the platform to review and utilize.

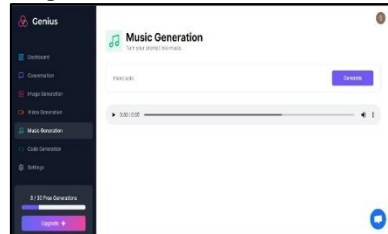
Implementation:

1. Log in to the platform or sign up for an account.
2. Navigate to the image generation tool with the help of platform’s interface.
3. Enter the input parameters and specifications for the image you want to generate (Note: Describe clearly to get most accurate result)
4. Now click on the generate option.
5. Once you’ve clicked, it initiates image generation process. Images will get generated.
6. After generation, if it’s not exactly what we are looking for, consider refining adjusting input text or try to illustrate more.
7. If we are satisfied with generated images, download it to your devices.

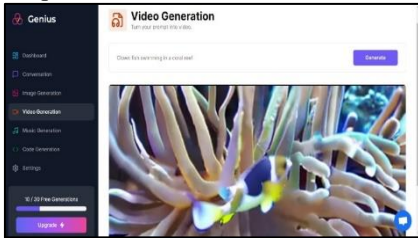
Input: "A picture of horse in swiss alps"
Output:



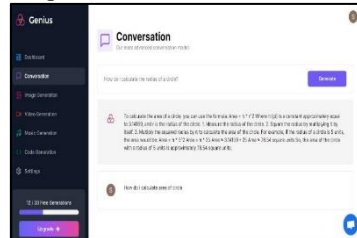
Input: "Piano solo"
Output:



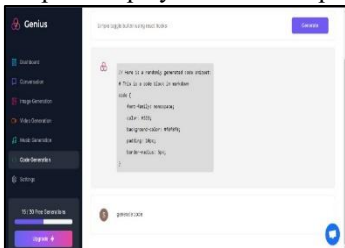
Input: "Clown fish swimming in a coral reef"
Output:



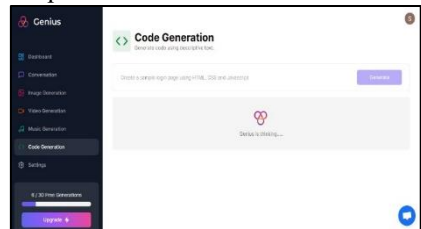
Input: "How can I calculate the radius of circle"
Output:



Input: "Simple toggle button using react hooks" (for invalid inputs)
Output: Displays random output



Input: "Create me login page using HTML, CSS and JS"
Output:



Input: (specify your account details and proceed with payment)
Output:

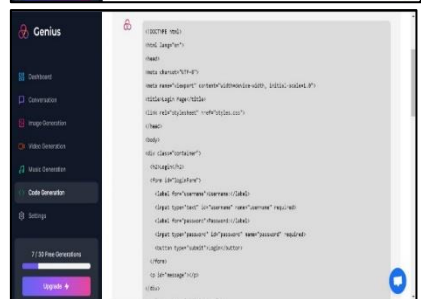
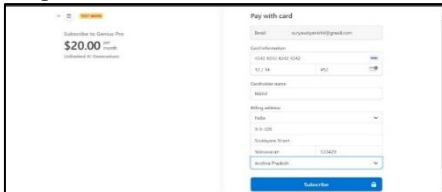


Fig 8: Test cases for all the modules

Project flow of Music generation

Whenever user provides input parameters through text format, AI algorithms analyse these user specifications and generates audio tracks, sound effects or compositions that matches the specified criteria. And this model's workflow was shown in figure:

Implementation:

1. Log in to the platform or sign up for an account.
2. Navigate to the Music generation tool with the help of platform's interface.
3. Enter the input parameters and requirements you want to generate audio (Note: Describe clearly to get most accurate result)
4. Now click on the generate option.
5. Once you've clicked, it initiates audio generation process and audio will get generated.
6. After generation, if it's not exactly what we are looking for, consider refining adjusting input text or try to illustrate more.
7. If we are satisfied with generated audios, download it to your devices.

Project flow of Video generation

Whenever user provides input parameters through the text format, which specifies scene descriptions, character actions, and visual styles, AI algorithms process those inputs and generate a sequence of videos that depict the desired video content. And the generated video presented to user for review. This model's workflow was shown in figure:

Implementation:

1. Log in to the platform or sign up for an account.
2. Navigate to the Video generation tool with the help of platform's interface.
3. Enter the input parameters and specifications for the video you want to generate (Note: Describe clearly to get most accurate result)
4. Now click on the generate option.
5. Once you've clicked, it initiates video generation process. Videos will get generated.
6. After generation, if it's not exactly what we are looking for, consider refining adjusting input text or try to illustrate more.
7. If we are satisfied with generated videos, download it to your devices.

Project flow of Text generation

When user input parameters via text, keywords, or story outlines, algorithms will analyse the input and generate coherent textural content based on the provide cues. User can able to review and refine the generated text. This model's workflow was shown in figure:

Implementation:

1. Log in to the platform or sign up for an account.
2. Navigate to the text generation tool with the help of platform's interface.
3. Enter the input parameters and specifications for the content you want to generate (Note: Describe clearly to get most accurate result)
4. Now click on the generate option.
5. Once you've clicked, it initiates content generation process. Content will get generated.
6. After generation, if it's not exactly what we are looking for, consider refining adjusting input text or try to illustrate more.

7. If we are satisfied with generated content, save it for further purposes.

Flow of Code generation

Whenever user input programming requirements, specifications, or logic parameters into the prompt, AI algorithms interpret these inputs and generate code snippets. And user can review the code which reduces manual coding effort. This model's workflow was represented in the below figure:

Implementation:

1. Log in to the platform or sign up for an account.
2. Navigate to the Code generation tool with the help of platform's interface.
3. Enter the input parameters and specifications for the logic/program/code you want to generate (Note: Describe clearly to get most accurate result)
4. Now click on the generate option.
5. Once you've clicked, it initiates code generation process. Code/Logic will get generated.
6. After generation, if it's not exactly what we are looking for, consider refining adjusting input text or try to illustrate more.
7. If we are satisfied with generated code/logic/program, save it to your devices.

Project flow of Payment Option

User begins with selecting a subscription plan and proceeding to the payment gateway, offering various options. Integrated with Stripe, users securely input payment details, choosing from credit/debit cards or digital wallets. Genius processes transactions securely, ensuring the confidentiality of financial data. Upon successful payment, users gain access to their chosen subscription, unlocking AI-powered content creation tools.

Implementation:

1. Log in to the platform or sign up for an account.
2. Navigate to the Payment/Subscription with the help of platform's interface.
3. Specify your subscription plans and proceed with payment process.
4. Once, all process done, user can able to access the platform without limited trials.

Test cases for all these image, music, video, text generations are shown in figure 8.

5 Conclusion and Future Enhancement

This SaaS AI Platform represents a comprehensive solution by integrating Audio, Video, Music, Text, Code Generation in one platform focusing mainly on user-centric design. With its advanced AI capabilities, customizable features, and robust security measures, the platform stands poised to revolutionize various industries. Ultimately, this project signifies not just a software platform, but a catalyst for transformative change and boundless possibilities in the realm of AI-driven solutions. By seamlessly integrating video, audio, image, text, and code generation capabilities, it streamlines workflows and enhances productivity. Its primary objective is to increase accuracy and

broaden the vocabulary for recognizing text, ultimately yielding the most precise results and enhancing user utility. Finally, this platform empowers users with unparalleled flexibility and efficiency, ushering in a new era of innovation and collaboration across industries.

Future enhancements for the SaaS AI Platform encompass advanced AI integration for image, video, conversation, and music generation, coupled with customizable theming options. Customization features offer users thematic options, while advanced analytics deepen understanding of user behaviour. Customizable Image Generation Quantity, offering users the ability to choose the number of images to be generated enhances the platform's usability and efficiency. Image Creation in Various Resolutions, enabling users to generate images in various resolutions provides greater flexibility and versatility in content creation. Optimization of Text Generation in Paragraph Type, optimizing text generation for paragraph-type content involves fine-tuning AI models to produce coherent and contextually relevant passages of text.

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