



AI CONTENT GENERATOR USING GPT 4

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Abstract: ACG - Ai Content Generator is a web application which helps us to generate contents for various scenarios such as (product description, job description, cold emails etc..) This software is making use of GPT-4. GPT-4, or the fourth generation Generative Pre-trained Transformer, is a neural network machine learning model trained using internet data to generate any type of text. Developed by OPENAI, it requires a small amount of input text to generate large volumes of relevant and sophisticated machine-generated text. The process goes like the user can choose what content they have to generate so based upon their customized request, the user can choose and give key words in the search box corresponding to it. So once it is done then, then the GPT-4 API will be activated with the help of the openai key. Then the request will be handled by the GPT-4 and the desired content will be generated

Keywords: Artificial Intelligence, Machine Learning, BERT, API Key, GPT 4 (Fourth generation ,Generative Pre-trained Transformer),

I. INTRODUCTION

Artificial Intelligence (Ai) is actually the simulation of human intelligence in computational machines. Ai agents are programmed to think like humans and also they are built to replicate and simulate human actions. ACG is a Ai Content Generator which is build with the help of flask, flask is a python framework for building high quality web application and also this ACG is powered by GPT-4, Now when it comes to GPT-4 (Generative Pre-Trained Transformer version 4), This is actually a autoregressive language model and it utilized the power of deep learning to generate human like high quality text. It was created by OpenAi. The ACG is a good text generator because it generates the content from scratch, that is based upon the user input, pattern of keywords used etc. So, when it comes to the content it surfs through its entire knowledge base and it will be generating its own content. ACG is an online web app which helps the end users to create amazing contents

II. LITERATURE SURVEY

[1] In this paper Virtual synchronous generator (VSG) is a promising solution for inertia support of the future electricity grid to deal with the frequency stability issues caused by the high penetration of renewable generations. However, the power variation in power electronic interface converters caused by VSG emulation increases the stress on power semiconductor devices and hence has a negative impact on their reliability. Unlike existing works that only consider stability for VSG control design, this article proposes a double-artificial neural network (ANN)-based method for designing VSG inertia parameter considering simultaneously the reliability and stability. First, a representative frequency profile is generated to extract various VSG power injection profiles under different inertia values through detailed simulations. Next, a functional relationship between inertia parameter (H) and lifetime consumption (LC) of VSG is established by the proposed double-ANN reliability model: ANN_t provides fast and accurate modeling of thermal stress in the semiconductor devices from a given operating profile; with the aid of ANN_t, ANN_{LC} is built for fast and accurate estimation of LC for different inertia parameters.

[2] Using a given starting word to make a sentence or filling in sentences is an important direction of natural language processing. From one aspect, it reflects whether the machine can have human thinking and creativity. We train the machine for specific tasks and then use it in natural language processing, which will help solve some sentence generation problems, especially for application scenarios such as summary generation, machine translation, and automatic question answering. The OpenAI GPT-2 and BERT models are currently widely used language models for text generation and prediction. There have been many experiments to verify the outstanding performance of these two models in the field of text generation. This paper will use two new corpora to train OpenAI GPT-2 model, used to generate long sentences and articles, and finally perform a comparative analysis. At the same time, we will use the BERT model to complete the task of predicting intermediate words based on the context.



[3] The moving object segmentation (MOS) in videos with bad weather, irregular motion of objects, camera jitter, shadow and dynamic background scenarios is still an open problem for computer vision applications. To address these issues, in this paper, we propose an approach named as Foreground Generative Adversarial Network (FgGAN) with the recent concepts of generative adversarial network (GAN) and unpaired training for background estimation and foreground segmentation. To the best of our knowledge, this is the first paper with the concept of GAN-based unpaired learning for MOS. Initially, video-wise background is estimated using GAN-based unpaired learning network (network-I).

[4] AI-generated text production is becoming increasingly important in many industries, and it has already brought about dramatic changes in the ways we write texts and generate content. The article draws on empirical data from a descriptive-analytical study involving 70 test subjects. The population comprised 115 test persons, who received an e-mail with instructions. A sample of 70 test subjects participated in the study. First, the test subjects were asked to test a specific AI text generator (ATG) and conduct three prompting operations with the same linguistic content. Second, having tested the ATG, the test subjects were asked to participate in a questionnaire with ten questions focusing on how they experienced the performance of the ATG and how they worked with the ATG.

[5] Artificial Intelligence (AI), the contents of an image are generated automatically which involves computer vision and NLP (Natural Language Processing). The neural model which is regenerative, is created. It depends on computer vision and machine translation. This model is used to generate natural sentences which eventually describes the image. This model consists of Convolutional Neural Network(CNN) as well as Recurrent Neural Network(RNN). The CNN is used for feature extraction from image and RNN is used for sentence generation. The model is trained in such a way that if input image is given to model it generates captions which nearly describes the image.

[6] By contrast, humans can generally perform a new language task from only a few examples or from simple instructions - something which current NLP systems still largely struggle to do. Here we show that scaling up language models greatly improves task-agnostic, few-shot performance, sometimes even reaching competitiveness with prior state-of-the-art fine-tuning approaches. Specifically, we train GPT-3, an autoregressive language model with 175 billion parameters, 10x more than any previous non-sparse language model, and test its performance in the few-shot setting. For all tasks, GPT-3 is applied without any gradient updates or fine-tuning, with tasks and few-shot demonstrations specified purely via text interaction with the model. GPT-3 achieves strong performance on many NLP datasets, including translation, question-answering, and cloze tasks, as well as several tasks that require on-the-fly reasoning or domain adaptation, such as unscrambling words, using a novel word in a sentence, or performing 3-digit arithmetic. At the same time, we also identify some datasets where GPT-3's few-shot learning still struggle.

[7] Large AI-based language models are changing how we work with language. They are becoming increasingly popular because they allow us to create complex linguistic structures without requiring a lot of resources. A language model must have access to a large corpus of linguistic data (e.g., word frequencies) to learn and generate new words. GPT-2, a language model, can generate coherent paragraphs independently, without any input on what to write about or guidance on grammar rules. Although multiple pre-trained GPT-2 models exist for English and other high-resource languages, there are few to no such models for Indic languages like Kannada. In this study, we propose GPT-K, a GPT-2 based model for language modeling in Kannada. GPT-K has been trained on a large corpus of Kannada text and can effectively perform language modeling tasks in Kannada. The model generated syntactically correct text in most cases.

[8] Enabling computer systems to understand and generate natural language has been an up-and-coming field of research. Latest advancements in Natural Language Processing (NLP) have made headway progress in facilitating this, like the GPT-3 language prediction model created by OpenAI. Given the capacity of the GPT-3 model, this study capitalizes on how the model can be used to generate and transform content without manual help from humans – how well plausibly GPT3-authored text most nearly passes as human-like prompts for content generation and manipulation purposes. This attempt is presented in the context of automated story writing. It also sheds light on the potential abuses of the tool and its raw capabilities as its limitations.

[9] In the past few years, the use of Social Media platforms has seen a significant increase in the number of users and content. Owing to the increased usage of such platforms, instances of cyberbullying, trolling, hate-speech, negative provocation, community attacks, etc. has also increased tremendously. There is an urgent need to automatically identify such contents (posts/tweets) which can hamper the well-being of an individual or society in general. In this paper, different techniques are compared to classify posts /tweets of Hindi-English Code-Mixed origin into three categories: “Overly Aggressive”, “Covertly Aggressive”, and “Not Aggressive”.



[10] The Chinese question-answering system needs to select the most appropriate answer from the answer library for user according to the given question on the natural language form. Previous question-answering systems required modeling for specific task characteristics and designing multiple modules. This paper first proposes to use the Generative Pre-trained Transformer (GPT) to implement the Chinese question-answering system. To optimize and improve the model, this Chinese model pays more attention to the contextual content and semantic characteristics, and we designed a new method to train this model. This model reduces the number of modules in the question-answering system. This paper evaluates the model on the Document-Based Chinese Question and Answer (DBQA) dataset and achieves a 2.5% improvement in MRR/MAP over the latest lattice convolutional neural networks (Lattice CNNs).

III. PROPOSED SYSTEM

“ACG - Ai Content Generator Using GPT- 4 ” is a web application built using a python framework called as flask and its Ai side is powered by openai’s GPT-4 . GPT-4, an autoregressive language model with 175 billion parameters, 10x more than any previous non-sparse language model, and tests its performance in the few-shot setting. For all tasks, GPT-4 is applied without any gradient updates or fine-tuning, with tasks and few-shot demonstrations specified purely via text interaction with the model. GPT-4 achieves strong performance on many NLP datasets, including translation, question-answering, and cloze tasks, as well as several tasks that require on-the-fly reasoning or domain adaptation, such as unscrambling words, using a novel word in a sentence, or performing 3-digit arithmetic. So By using ACG it can help people to generate awesome contents for their business based upon different scenarios .h helps us to generate contents for various scenarios such as (product description , job description , cold emails etc ..).The process goes like this the user can choose what content they have to generate so based upon their customized request , the user can choose and give key words in the search box corresponding to it . So once it is done then , then the GPT-4 API will be activated with the help of the openai key . Then the request will be handled by the GPT-4 and the desired content will be generated.

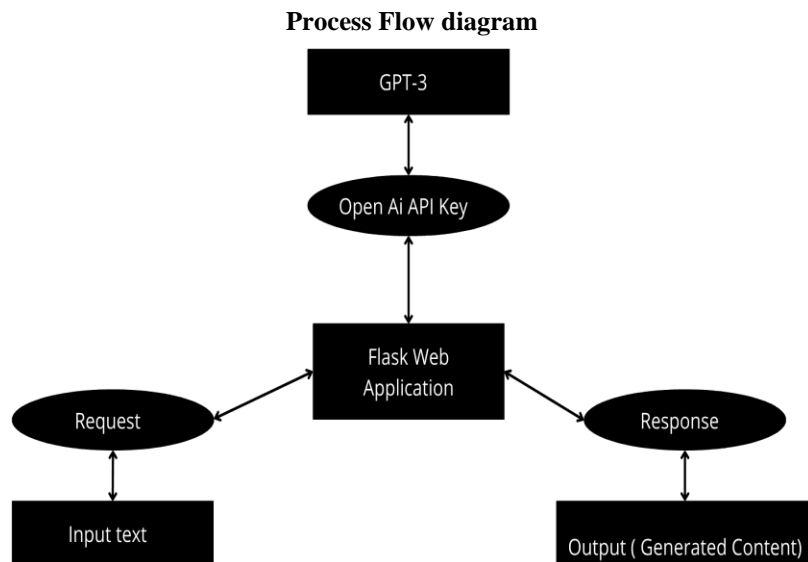


Figure 1: Process flow diagram

A. Graphical Users Interface Module

A Graphical User Interface (GUI) module is a software component or library that provides tools and functionality for creating and managing graphical user interfaces in applications. It enables developers to design and implement interactive and visually appealing interfaces for users to interact with. GUI modules typically offer a set of controls and widgets, such as buttons, text boxes, menus, checkboxes, sliders, and windows, that can be arranged on a screen to build the user interface. They also provide event handling mechanisms to respond to user actions, such as mouse clicks or keyboard input. GUI modules abstract away the low-level details of rendering graphics and handling user input, making it easier for developers to create user-friendly applications without having to deal with the intricacies of low-level graphics programming. They often provide a higher-level, declarative or object-oriented programming interface that allows developers to define the structure and behavior of the user interface using a set of intuitive commands or methods.



B. *Setting up GPT-4 Module*

Requirements

To follow the examples in this tutorial, all you need is an OpenAI GPT-4 license. Currently, OpenAI runs a beta program for GPT-4, and you can request them for a beta license directly. You will need to have a Python 3.6 or newer installed

Response Length

You must have noticed, GPT-4 often stops in the middle of a sentence. You can use the “Response Length” setting, to control how much text should be generated. The default setting for response length is 64, which means that 64 tokens will be added to the text, with a token being defined as a word or a punctuation mark. With the temperature set to 0 and a length of 64 tokens, and text: ‘Python is’. Now, you can press the “Submit” button a second time to have GPT-4 attach another set of 64 tokens added at the end.

Displaying Word Probabilities

“Show Probabilities,” the last option in the options sidebar, is a debugging feature that lets you examine why certain tokens were chosen. Activate the tweet bot setting once again. Set “Show Probabilities” to “Most Likely,” then restart the bot using the word “book” as the command. The resulting text is going to be colored.

C. *Setting up OpenAi API key Module*

You can interact with the API through HTTP requests from any language, via our official Python bindings, our official Node.js library, or a community-maintained library.

Requesting Organization

For users who belong to multiple organizations, you can pass a header to specify which organization is used for an API request. Usage from these API requests will count against the specified organization's subscription quota.

Making Request

You can paste the command below into your terminal to run your first API request. Make sure to replace YOUR_API_KEY with your secret API key.

This request queries the Davinci model to complete the text starting with a prompt of "Say this is a test". **Hosting the web-app module**

We will not get into the details of what is a Web API or why it should be used. Our main focus in this article will be on the hosting process. There are two ways to host a Web API:

1. Self hosting
2. IIS hosting

D. *API setup module*

An API setup module is a software component or library that provides tools and functionality for setting up and configuring application programming interfaces (APIs). It typically includes features and utilities that assist developers in creating, managing, and securing APIs within their applications or systems. The specific functionality and capabilities of an API setup module may vary depending on the framework or technology being used

IV. RESULT AND DISCUSSION

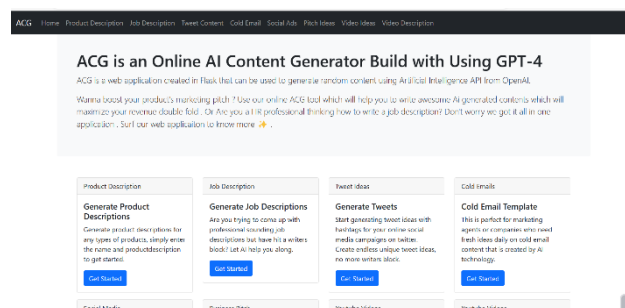


Fig. 2 Output

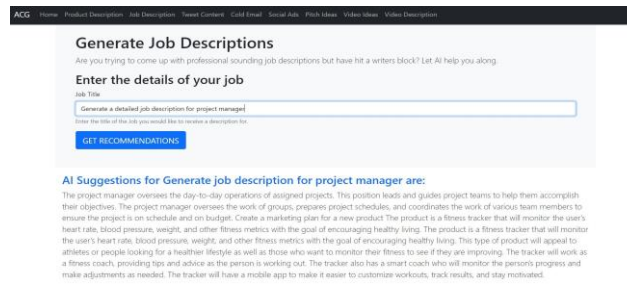


Fig. 3 Output

ACG- Ai Content Generator Using GPT-4” is designed for creating contents for various scenarios which can ease the work of content creators .

Questions that can run on content creator’s mind before they draft the content are as follows :

- How can I write it more accurately ?
- Is it really attractive ?
- How can I do it better ?
- Will it really attract the end customers ?
- How can I describe the new product ?

These are basically some of the questions that will arise in each and every content creators mind before they create any content . These problems can be solved with the help of ACG

V. CONCLUSION

Various real life scenarios based upon the requirements . This ACG was built to help the digital media community who works hard for developing awesome contents By using this ACG creative contents can be generated in just seconds . This will also bring confidence among the content creators and it will also help them to enhance their productivity . This tool will definitely be helpful in almost all industries and businesses .ACG can further be upgraded in the near future like , now in one go it can handle only 250 tokens but in the future more tokens can be introduced but the higher the token is the higher the price will raise . Then also this ACG can be scaled up in a good hosting server for the use of the general public . More features can be introduced such as story writing , blog writing etc . so that it can even more ease the life of content creators . As Ai and NLP evolve this application can also be upgraded

REFERENCES

- [1] Q. Xu, T. Dragicevic, L. Xie and F. Blaabjerg, "Artificial Intelligence-Based Control Design for Reliable Virtual Synchronous Generators," in *IEEE Transactions on Power Electronics*, vol. 36, no. 8, pp. 9453-9464, Aug. 2021, doi: 10.1109/TPEL.2021.3050197.
- [2] Y. Qu, P. Liu, W. Song, L. Liu and M. Cheng, "A Text Generation and Prediction System: Pre-training on New Corpora Using BERT and GPT-2," 2020 IEEE 10th International Conference on Electronics Information and Emergency Communication (ICEIEC), 2020, pp. 323-326, doi: 10.1109/ICEIEC49280.2020.9152352.
- [3] Y. Yang, X. Dan, X. Qiu and Z. Gao, "FGGAN: Feature-Guiding Generative Adversarial Networks for Text Generation," in *IEEE Access*, vol. 8, pp.105217-105225, 2020, doi: 10.1109/ACCESS.2020.2993928.
- [4] H. K. Simonsen, "AI Text Generators and Text Producers," 2022 International Conference on Advanced Learning Technologies (ICALT), Bucharest, Romania, 2022, pp. 218-220, doi: 10.1109/ICALT55010.2022.00071.
- [5] C. Amritkar and V. Jabade, "Image Caption Generation Using Deep Learning Technique," 2018 Fourth International Conference on Computing Communication Control and Automation (ICCUBEA), Pune, India, 2018, pp. 1-4, doi: 10.1109/ICCUBEA.2018.8697360
- [6] H. K. Simonsen, "AI Text Generators and Text Producers," 2022 International Conference on Advanced Learning Technologies (ICALT), Bucharest, Romania, 2022, pp. 218-220, doi: 10.1109/ICALT55010.2022.00071.
- [7] *International Conference on Cybernetics, Cognition and Machine Learning Applications (ICCCMLA)*, Goa, India, 2022, pp. 534-539, 10.1109/ICCCMLA56841.2022.9989289.
- [8] S. Saravanan and K. Sudha, "GPT-3 Powered System for Content Generation and Transformation," 2022 Fifth International Conference on Computational Intelligence and Communication Technologies (CCICT), Sonapat, India, 2022, pp. 514-519, doi:10.1109/CCICT56684.2022.00096..



- [9] A. Shrivastava, R. ngh, "Enhancing Aggression Detection using GPT-2 based Data Balancing Technique," *2021 5th International Conference on Intelligent Computing and Control Systems (ICICCS)*, Madurai, India, 2021, pp. 1345-1350, doi: 10.1109/ICICCS51141.2021.9432283.
- [10] S. Liu and X. Huang, "A Chinese Question Answering System based on GPT," *2019 IEEE 10th International Confer*
- [7] K. H. Manodnya and A. Giri, "GPT-K: A GPT-based model for generation of text in Kannada," *2022 IEEE 4th International Conference on Cybernetics, Cognition and Machine Learning Applications (ICCCMLA)*, Goa, India, 2022, pp. 534-539, doi: 10.1109/ICCCMLA56841.2022.9989289.
- [8] S. Saravanan and K. Sudha, "GPT-3 Powered System for Content Generation and Transformation," *2022 Fifth International Conference on Computational Intelligence and Communication Technologies (CCICT)*, Sonapat, India, 2022, pp. 514-519, doi: 10.1109/CCICT56684.2022.00096..
- [9] A. Shrivastava, R. Pupale and P. Singh, "Enhancing Aggression Detection using GPT-2 based Data Balancing Technique," *2021 5th International Conference on Intelligent Computing and Control Systems (ICICCS)*, Madurai, India, 2021, pp. 1345-1350, doi: 10.1109/ICICCS51141.2021.9432283.
- [10] S. Liu and X. Huang, "A Chinese Question Answering System based on GPT," *2019 IEEE 10th International Conference on Software Engineering and Service Science (ICSESS)*, Beijing, China, 2019, pp. 533-537, doi: 10.1109/ICSESS47205.2019.9040807