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Shri Shankaracharya Institute Of Professional Management & Technology, Raipur.

NEWSLETTER

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

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VISION

"To produce value-based quality Engineers with the knowledge of latest trends and research technologies to meet the developing needs of industry and society."

MISSION

► To impart quality education in line with quality teaching-learning process.
► To provide a better environment to encourage and support innovative research and development.
► To strengthen linkage between industry-academia for overall improvement of students.

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MEMORANDUM

The world is now undergoing a revolution with different types of technology. The change technology is bringing is incredible. Modern technology helps to save a lot of time and effort, which again helps in increasing efficiency and bringing perfection to the best. Chatgpt is one of the examples of the greatest technology launched till now. It completely changed our approach to doing our tasks. AI is actually doing a lot in the field of technology.I am gladly announcing that the department of Computer Science and Engineering has read about this chatbot (ChatGPT) and will explore its features and its future scope. Our staff members and students have both been constantly engaged in making the department a welcoming place. I sure do hope that the work will continue with this enthusiasm.

Shri Nishant Tripathi
Chairman, SSIPMT, Raipur

"SSIPMT Raipur has always focused on giving the best to its students and providing a better domain of comprehension, knowledge, to enhance their capabilities. We are dedicated to nurturing and grooming our students, ensuring their holistic development. At SSIPMT Raipur, we believe in offering endless opportunities for their overall growth and success. Various events have been meticulously organized, allowing our students to explore their talents, build their skills, and broaden their horizons. We are committed to shaping the future leaders of tomorrow and providing them with an enriching educational experience."

Dr. Alok Kumar Jain
Principal, SSIPMT, Raipur

FACULTY MESSAGE

Dr. J.P. Patra
HEAD & PROFESSOR, CSE

ChatGPT is a powerful language model that is increasing in popularity and everyday use. Its applications extend beyond just the tech industry; it is utilized in the majority of sectors, with education being a prominent example. ChatGPT possesses an abundance of knowledge collected from books, articles, and other online content. This vast knowledge base, coupled with its ability to swiftly answer complex queries, makes it an ideal choice for addressing questions of any nature. This is particularly beneficial for students seeking to acquire new knowledge. ChatGPT is an exceptional piece of technology with transformative potential not only in the tech industry but also across various domains.

Mr. Anand Tamrakar
ASSISTANT PROFESSOR, CSE

"Knowledge is power, information is liberating. Education is the premise of progress in every society, in every family. "Our college's NEWSLETTER has budded again with new shape and new colors. Our college SSIPMT has been growing at full fit and attracting meritorious students across the country. Students have tremendous opportunities in developing and showcasing their intrinsic skills and their talents. Their curricular and co-curricular activities which serve to their overall development and institution's excellence in the public demand. Being the head of the NATIONAL SERVICE SCHEME (NSS) family of the college, it has been my great aim to serve the nation in every fascinating way and our students have also actively accomplished that with the most respectable way.

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INTRODUCTION TO CHATGPT

ChatGPT is the most advanced language model developed by OpenAI based on the GPT-3.5 architecture. It is a powerful AI tool that can generate human-like answers to many questions and expressions, making it a great conversation tool. It is trained on large amounts of data from the internet, allowing it to understand natural language and generate meaningful and useful responses. One of the key features of ChatGPT is its ability to learn and evolve through interaction with users. That means many people use it, it's accurate and effective. It can also provide personalized responses based on the user's context and preferences. ChatGPT has many uses, from customer and support to education and entertainment. It's constantly evolving and evolving, making it a must-have tool for anyone looking to improve their online interactions.

FACTS RELATED TO CHATGPT

1. ChatGPT has a dataset of around 570 GB which includes WebPages, books, and other sources.
2. ChatGPT 3 uses the decoder architecture as chatGPT 2 with the difference being in the number of parameters and the size of the dataset.
3. The cost of using chatGPT is ₹0.08 for 20,000 words and ₹0.15 for generating an image.
4. ChatGPT predicted nearly 5 million jobs can be replaced by AI.
5. ChatGPT has generated a revenue of 200 million dollars this year and is expected to make 5 times it in the following year.

HOW TO USE ?

There are some points that should be kept in mind for the proper utilization of chatgpt :-
SPECIFICATION - Try to ask the questions to the point.
PATIENCE- Sometimes chatgpt also take seconds for providing the response to a complex question.
CONTEXT- If you didn't find the correct answer for the question try to rephrase the question in other ways for better results.
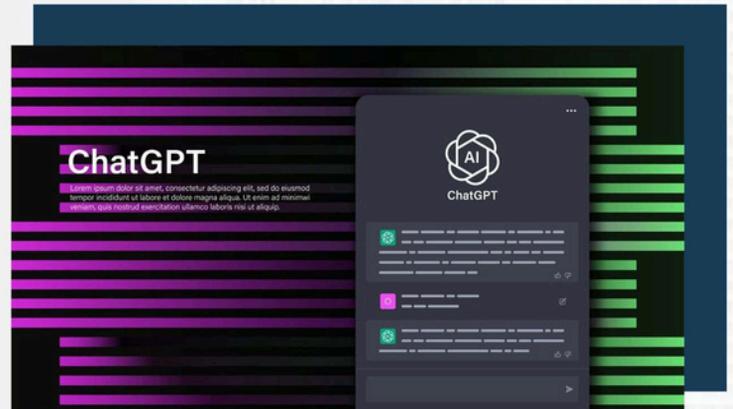NATURAL LANGUAGE - Chatgpt is designed in such a way that it understands natural language,therefore try to use plain english,to avoid technical jargon.
CONCISENESS- Ask questions in a concise way to avoid misinterpretation.

USE CASES OF CHATGPT IN DIFFERENT INDUSTRIES

ChatGPT's applications and usefulness in various industries:

1. **CONTENT CREATION AND ENHANCEMENT** - ChatGPT's ability to generate lengthy high-quality content within seconds makes it extremely useful for generating content for articles, websites, etc.

2. **CODING** - ChatGPT's ability to write code, debug and document already written code makes it a developer's obvious choice when looking for help.

3. **ALTERNATIVE SEARCH ENGINE** - Chat GPT can be used to ask direct queries instead of entering it in a search engine the AI will return with solutions within minutes.

WORKING OF CHATGPT

ChatGPT represents a significant improvement over its predecessor GPT-3. It uses a particular technique called Reinforcement Learning from Human Feedback (RLHF). ChatGPT works by attempting to understand your prompt and then gives out words.

When you ask a question or input a message to ChatGPT, it first processes the input and then generates an output based on its understanding of the language. This is done using a process called "sequence-to-sequence learning,".

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CHATGPT

ADVANTAGES

► It's is inevitable it is the future as its eminent property is "SELF-DEVELOPMENT".

► Chatgpt understands its user much better than itself, the live example is social-media, it suggests items depending upon your search-feed.

► AI finds out the best possible decision to accomplish the task given once programmed, where a person may fail due to any kind of emotions, feelings or distraction.

► Availability, Cost-effective: Chatgpt is all-rounder with Multilingual support and consistent response with customer support.

LIMITATIONS

►Limited Understanding: AI language might not understand certain contexts, causing communication issues.

► Lack of Human Connection: Chatgpt can provide limited personal interaction, which can cause problem for those who need an empathetic ear.

► Inconsistency in output, is, security concerns makes it sometimes irrelevant to the user.

► Chatgpt has almost overtaken humans in almost everyway except for the emotional feeling and real-time decision-making ability.

► The dark side of the bot is too dangerous, hence be cautiously.

TECHNICAL UPDATES OF CHATGPT

The version GPT – 4 provides us an updated version, in which numerous features are added for manly convenience. Some of the features of GPT 4 are mentioned below :-

Multilingual Capabilities: The new version has a better understanding of the languages which makes the model

Improved Efficiency: The updated version of ChatGPT has an improved efficiency. Now ChatGPT can generate responses more quickly, reducing the time it takes for users to receive a reply.

Enhanced Natural Language Processing: ChatGPT 4 is more humane in its conversational styles. It uses simple language and has less technical jargon.

Multimodal input support: The model can now handle both text and images.

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TECH GEEK

Game Engines: The Technology Behind Today's State-of-the-Art Video Games.
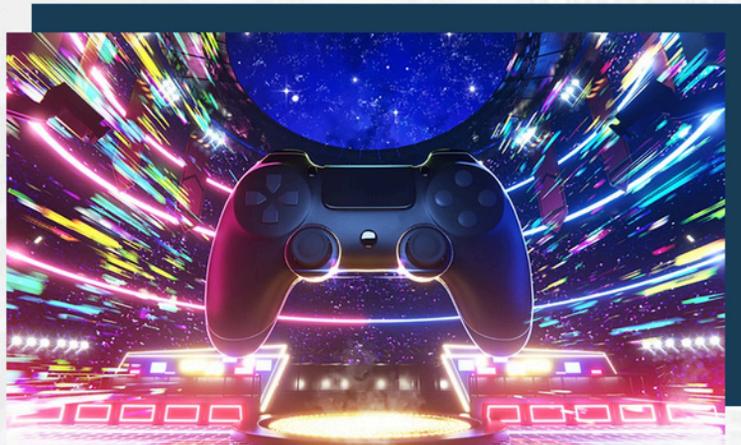**Astitva Pathak**

Ever wondered how your favourite games have stunning graphics and seamless gameplay? What powers them and how are they made? The answer is Game Engines.

They offer complicated software tools which facilitate the creation and execution of video games. They act as a backbone to the game, making game development easier for the developers with an end-to-end workflow. Let's unwrap how a game engine turns code and design into pixel-perfect games we all love.

Components of Game Engines

The main component which brings the games to life is the Rendering Engine. Its role is to display the visual elements of the game. The scene consists of 2D designs, 3D models, textures, and lighting. It also handles all the mathematical procedures to generate and transform all the objects

What about interactions? The inter-object interaction is handled by the Physics Engine. It essentially controls the movement of objects, their collisions, and their reaction to forces.

How do we define the logic of the game? It's with code of course! All game engines come with a scripting engine that helps us tie all the different components together.

Popular Game Engines and the Future

The 2 most popular game engines used widely today are Unity and Unreal Engine. Unity is liked a lot since it can export the game into multiple platforms including desktop and mobile. Unreal Engine is known to be the state-of-the-art game engine for its incredibly realistic real-time rendering engine.

As we progress further, we will also see the inclusion of AR and VR tools in game engines to bring games to reality. Further optimization will give prominence to cloud gaming and efficient utilisation of hardware. We'll also see a further reduction in complexity to make game engines more accessible and easy to use.

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ChatGPT: Unveiling the Magic Behind Humanlike Conversational Assistance

Satyam Verma

You must've already heard of ChatGPT, an AI tool released by Open AI in November 2022. Unlike other AI tools, it quickly caught on, everyone has been using it. People have found a plethora of use cases. Everything from being a personal tutor to a co-pilot to accelerate their workflow productivity. It's also being constantly updated and with recent introductions of GPT-4, it's only getting better. Wait, how does it work so well though? Let's unroll.

Technology

The GPT in ChatGPT is a large language model (LLM) which stands for Generative Pre-trained Transformer. Let's break it down, Generative means it generates text, simple. Transformer refers to the architecture or a complex algorithm that can understand semantics and thereby generate text, just like us! They first need to be "pre-trained" on a vast amount of text to understand human language using a technique known as self-attention, that maps relations and positions of words to create context.

The transformer used is specifically a decoder-only auto-regressive in nature. Well, it sounds a bit overwhelming, but it is simpler than that, let's unpack. Transformer is a type of deep neural network layer. LLMs consist of many such layers which encode the input text and decode the output. The decoder predicts the next word of the output by the context provided by the earlier words as input. Auto-regressive means its only job is to keep predicting what comes next, one word at a time, you must've noticed it. This process is repeated until the desired output length is reached, thus generating contextually relevant text.

RLHF

Understanding the semantics of languages isn't enough to hold a coherent and helpful conversation. ChatGPT is human-like because it was taught by humans using RLHF (Reinforcement Learning with Human Feedback). Human evaluators ranked GPT-3 model outputs, creating a dataset with scores based on the quality, coherence, and relevance we expect from a human conversation. This data trained a Reinforcement Learning model, which guided GPT to generate higher-scoring text. Iterative fine-tuning improved the model's performance, leading to GPT-3.5 Turbo, known for high-quality, human-like responses.

FUTURE

The future of GPT and other LLMs looks promising, ChatGPT already helps with our chores just by manual interaction, imagine what enhancements would it make if it is integrated with other applications to improve your workflow, such as in Search Engines, enabling more sophisticated and context-aware search results providing a personalized experience. Advancements in AI translation technologies could significantly overcome language barriers worldwide. LLMs are already impactful in medicine, cybersecurity, finance, and software. Recent announcements of even more powerful LLMs like GPT-4, PaLM 2 are a testament to an intertwined experience of AI with humans.

CENTRE OF EXCELLENCE

Anurag Lalwani

B.Tech 8th semester
Placed in Rubrik

If you aspire to become a software development engineer, here are key steps for success. Firstly, focus on strengthening your technical foundation by diving deep into core computer science subjects like data structures, algorithms, and object-oriented programming. Practice coding regularly and tackle challenges on platforms like LeetCode and HackerRank to enhance your problem-solving skills. Practical experience is crucial, so seek internships that provide hands-on exposure to the software development process. This will help you understand real-world aspects and boost your skills. Stay updated with industry trends and emerging technologies to remain competitive in the job market. Cultivate soft skills such as communication, teamwork, and problem-solving through group projects and coding competitions. Networking is also important, so attend industry events and utilize platforms like LinkedIn to connect with professionals. Lastly, participate in mock interviews to hone your interview skills and make a strong impression. Combining technical expertise, practical experience, soft skills, and networking will set you on the path to success in the software development engineering field.

Manpreet Singh Saluja

B.Tech 8th semester
GATE AIR: 315
Selected as a scientist in Bhabha Atomic Research Centre-2023

During my B. Tech journey, I was faced with two critical career options: pursuing placement opportunities or concentrating on the competitive GATE exam. After much deliberation, I decided to tackle the GATE exam and began my preparation wholeheartedly. This choice presented me with numerous challenges, but it also helped medevelop valuable skills and grow as a person.

Throughout this process, I diligently worked on my core subjects, demonstrating dedication, consistency, and discipline. I also made it a point to attend seminars, workshops, and online courses to further enhance my knowledge. Additionally, I always strived to maintain a positive attitude, stay motivated, and seek support from my peers and mentors.

To fellow juniors preparing for the GATE exam, I recommend the following: remain consistent, dedicated, and disciplined in your studies; continually motivate yourself; engage in ample practice; and utilize available resources like seminars, workshops, and online courses. By following these guidelines and maintaining a strong support system, you will be well-equipped to turn your dreams into reality.

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LAMHE 2023-FAREWELL

"The relationship between seniors and juniors is like a tree – the roots provide strength and stability, while the branches bring new growth and possibilities."

Lamhe'23 was organized to give a heartfelt adieu to our Beloved Seniors. The Event was just like going down the memory lane.The day was filled with a mixed bag of emotions accompanied by Music ,Dance, games, refreshments, gifts etc, which had to be forever memorable.Blessings and wishes for their bright future were given by the whole institution.

Lastly we wish Our Seniors the Best for their future endeavors as this the new voyage of scope,opportunities to sail for.Happy Journey!!

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NEWSLETTER TEAM

Mentor Sumitra Samal
Asst. Professor , CSE Dept.

In today's rapidly growing and evolving world, you should also stay up-to-date with the new technologies coming into the market. In Newsletter, we take any new technology and explain it in such a way that it is easy to understand with some different fun activities in between to make it more interactive for the reader. The main goal of the Newsletter is to spread valuable knowledge to everyone. Newsletter also fills the gap between the college and students as it is the most efficient mode of communication between the college authority and the student community which keeps them connected. In Newsletter there are multiple posts such as graphic designing, content writing, photography, and research which give them a professional environment to proceed in their career and grab the best opportunity.

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