



The Applications of Chat GPT in Computer Software Education

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Abstract: In This wrapper I describe to an Introductory to applications of Chat GPT (Generative Pre-trained Transformer), it is an Open Source Natural Language Processing based on AI (Artificial Intelligence). It is owned by Open AI. Chat GPT is top level rate learning developed by Open AI. It is designed to naturally speak (Communication) with people in its own natural language. It is well trained model to learn in today's modern technologies. In this particular era it is necessary to reevaluate the current learning process. The Chat GPT has contributed the modern technology using A.I, which cannot be omitted. This model is not only applicable in education, but also applicable in Law, Science, Company Management and also in real life. In this current technologies, technology is giving new faces in software and moving with new scenario, so the development is necessary to reconsideration of education process to innovate the technology in computer science.

Keywords: Chat GPT, Software Education, NLP, LLMs, Software Developing.

I.INTRODUCTION

Today, technology is playing a very significant role in growth of software education. ChatGPT (Generative Pre-Trained Transformer) is an open source, Natural Language processing (NLP) based Artificial Intelligence (A.I.) model introduced by the US Based company. It allows you to have human like conversation and much like chat box. The Language model can answer the questions and assist you with your various, composing Emails, queries and many more.

ChatGPT is widely used project created by the supervised and reinforcement learning method. ChatGPT is a large Language Models (LLM) developed by Open AI, but where ChatGPT complexity is less than GPT-3.5. ChatGPT has less number of parameters used in compare to GPT-3.5. GPT-3 can produce more number of information and produce varies in application, meanwhile ChatGPT is a better tool for generating responses in a conversational context, ChatGPT, questions and answers model can be chat with any subject and level of expertise. With respect to trend survey ChatGPT is booming in the today's technologies with high potential for more advanced and also the experience of users are good in positive with respect to "Applications Programming Interface (API)".

As the outcomes of ChatGPT is very successful in studies in deep learning in past years. ChatGPT have made more and more significance progress in human life NLP and making understand the people (users) ChatGPT can be used in various fields, but where as in education field it offers good response in education, it is great asset.

II.APPLICATIONS OF CHAT GPT

ChatGPT is used in various fields like creating articles, text, videos, research, company's information, marketing skills, and many more. ChatGPT applications are limit less. In addition to this it also applicable in correcting code errors debugging programme code, mathematical issues problem solving etc.

2.1 Language Translation: - ChatGPT is use to translate the language in different language. The software differ from classical software, ChatGPT translate the code from one programming to another programming language.

2.2 Prediction System: ChatGPT can be for brainstorming in our workstation ChatGPT gives innovation ideas to develop the business system and make to get develop in competitive market.

2.3 Gaming World: ChatGPT has an ability to perform the logical analysis and language known like human being are combined. Chat GPT gives us to more games in new fashion, design, graphics, mission etc. ChatGPT can be predicted that the potential for use in interactive games in high level of thinking ability and logical analysis.

2.4 Surrogate as search engines: ChatGPT is one of potential alternative solution of commonly used as a search engine, it is also online information tool. In today's trend technology people are adopting the potential solutions and optimizing solution. The study has recently evaluated that solution from different search engines platforms were collected, but whereas Chat GPT performance was skillful.

Another application area of chat GPT is Computer Software education, to be examined in next section.

III.APPLICATIONS OF COMPUTER SOFTWARE EDUCATION

In today's era computer software education is going to provide in all grade, i.e. From lower level to higher level of education, and also it is one the prominent method of acquiring the education. Now, in this generation people are becoming boring with this old model, it is time consuming, but where as in A.I. model such as Chat GPT can help student to learn computer software topics with more interactively and interesting. Chat GPT is used to explain the various programming language with various examples in less amount of time. It also provide the different problem solutions with practise and various outcomes. ChatGPT also analysis the code, gives better performance and optimized code.

3.1: Code Implementation: - With ChatGPT, Programs can be implement clearly, understandable, and easily to analysis line-by-line. It gives several templates with set of instruction. ChatGPT code programs will be with high accuracy in various software language. The explanation and standard of code will be much and more clearly developed, it is also used for various software development.

3.2 Code Completion: Code can be completed with keeping in our mind our task is executed or not. ChatGPT suggest us the current code line is going to analyse the next code line suggestion for the given problem, by asking the question to the model we can obtain the detail code of the software and completer it.

3.3: Translation of programming Language Code: ChatGPT can convert the one programming language to several another programming language with less amount of time without prior knowledge of the user automatically.

3.4: Preparing the documentation of software: Preparing the documentation is critical in the software lifecycle. It takes more time, patience, labour etc. But whereas ChatGPT it generates the documents with in a given limit of time with high accuracy, proper hierarchical level and in various languages as well, which can be carried out autonomously, can save labour and time.

3.5: Debugging the Code: ChatGPT is an alternative to debug the code for any relevant programming language found in modern software platforms. As a result of the process it can be used to debug errors, in eliminating the syntax ,logical, and lexical code error by suggesting solution for given problems.

3.6 Testing Software: ChatGPT can be used to create automated tested in computer software. It automatically generates tests, verify the expected functionality of software. In this way we can save time and testing will be done in high level of degree.

IV.DISCUSSIONS ON ADVANCED LANGUAGE MODELS IN HIGHER EDUCATION

In recent years, deep learning models such as ChatGPT have made significant progress in human-like NLP and understanding. ChatGPT can be used in many different areas, but it has good potential for computer software education in particular. Being able to write academic articles and producing solutions to various problems with a machine in a very short time with these LLMs, which are trained with a large database, brought some discussions. In some fields (for example, in software education), homework and projects given to students can be developed in a very short time with LLMs. Similarly, research papers can be produced with LLMs. This situation, together with ethical discussions, has made the criteria for measuring success in teaching debatable. In addition to these disadvantages, its contribution to software development and software learning processes, as stated above, is an undeniable fact.

4.1. Evaluation for International Students: International students face some basic problems related to the language of instruction in their education life. One of them is to learn a foreign language, which is the language of education, and to adapt to education in the learned language. Students who speak these languages commonly learn English and use English material for their scientific studies. Well-trained LLMs provide these students with access to educational material in their own language. Thus, a smooth transition process can be provided for the problems in the first years of their education life.

4.2. Evaluation in Terms of Student Projects: A recent debate has begun with well-trained LLMs on student projects in almost all fields of education. Although the copyright and plagiarism debates that are discussed in academic life are also held here, another area of discussion has been the problem of how to measure academic success. Because many assignments/projects can be done with LLMs. It is a big problem according to which success criteria will be evaluated for these produced home works. Similar discussions apply to remote exams. Although there are educational institutions that prohibit these models in high school and university education, it can be said that banning them completely is not a viable idea. Because there are universities that plan to be included in education such as New York State and Furman universities. At this stage, two solutions come to the fore. The first is to give an assignment that the LLMs cannot solve while giving the assignment/project. Second, in the evaluation phase, it is determined whether the assignment/project was produced with the LLMs. These two solutions require that instructors take extra care in the selection and evaluation of projects/assignments.

4.3. Integrating Language Models into Education: It can be said that well-trained LLMs have made a new revolution, such as the transition from education where classical written resources are used alone to education where the internet is widely used. There is no consensus on how this new technology should be handled by educators and in academia. Some states in America and some

schools in Australia have restricted access to applications such as Chat GPT. In some universities, it is planned to be included in first year education. In the coming years, it can be said that this issue will be discussed more widely in the academic community and more reliable data will be obtained with scientific studies. At this stage, it can be said that ignoring this technology would not be the right approach. Because it is not possible to ban or completely control this technology. It should be used as a good alternative to diversify and facilitate the learning process. In addition, students should be trained in their education life on how to best use these LLMs, which have a high potential to increase productivity in the business world, such as the software industry.

V.DISCUSSION AND CONCLUSION

The development of software process with Chat GPT is undoubtedly more effective, efficient, and convenient. This technology can be used to learn the new programming languages and its functions. The major help is to those who are new entrants in programming language in coding help. It save your time, money, avoid anxiety, it assist you like your trainer. It also provides various syntax, examples, templates, to write the code correctly and also it check, it is working according to you intend. It is also majorly help for students from various country with their own natural language. It helps to develop the standard software in best way possible. It should be wide spreader use of model in education, which will enhance learning and evaluation process of software education. It can instructing to students to continue the learning process and it should not be ignored.

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