

# ChatGPT and Higher Education

by Assistant Professor Dr Prihadi Kususanto,  
Faculty of Psychology and Social Sciences (FPSS), University of Cyberjaya

**C**hatGPT, an acronym for "Chat Generative Pre-trained Transformer," is an artificial intelligence (AI) language model created by OpenAI. It is specifically designed to generate human-like text in response to prompts, utilizing deep learning techniques to produce coherent and fluent responses to natural language inputs. Furthermore, the model is fine-tuned for a variety of natural language processing endeavors, such as language translation, text summarization, question answering, and text generation.

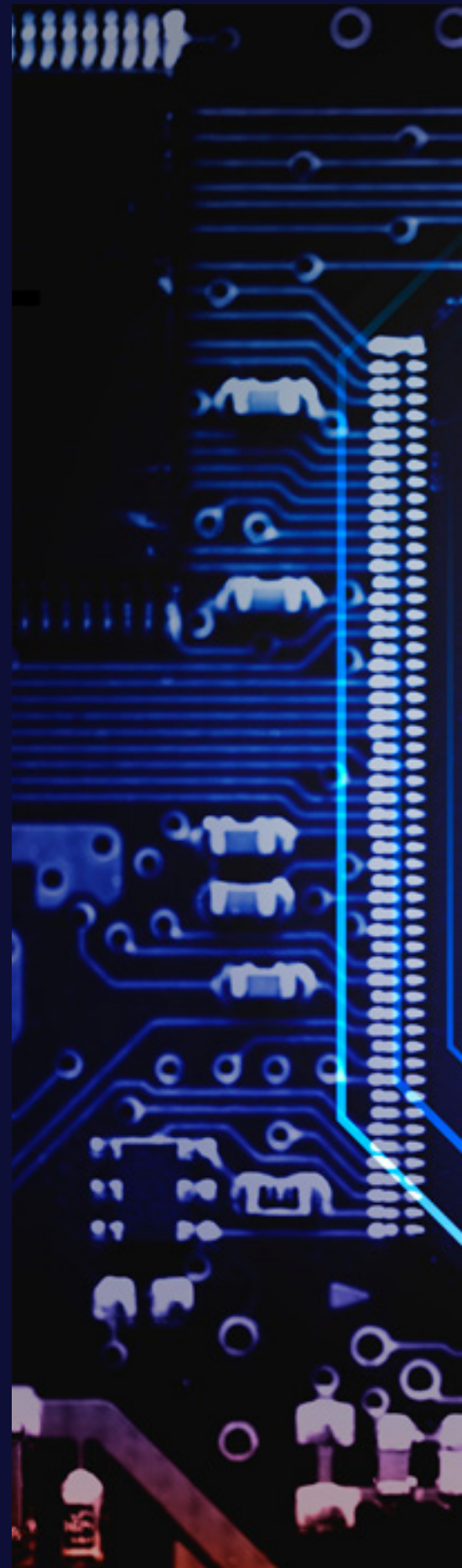
In general, anyone can use ChatGPT by opening it online and give it a prompt or question, and it will generate a response in human-like language. It is quite surprising to see how much the programme have learned, and how it responds to the questions we gave, as it can adjust its response based on how we want it to be. This is an example of how the programme responds to a question related to mental health theories, **"Explain the interpersonal theory of suicide in a maximum of 40 words."**

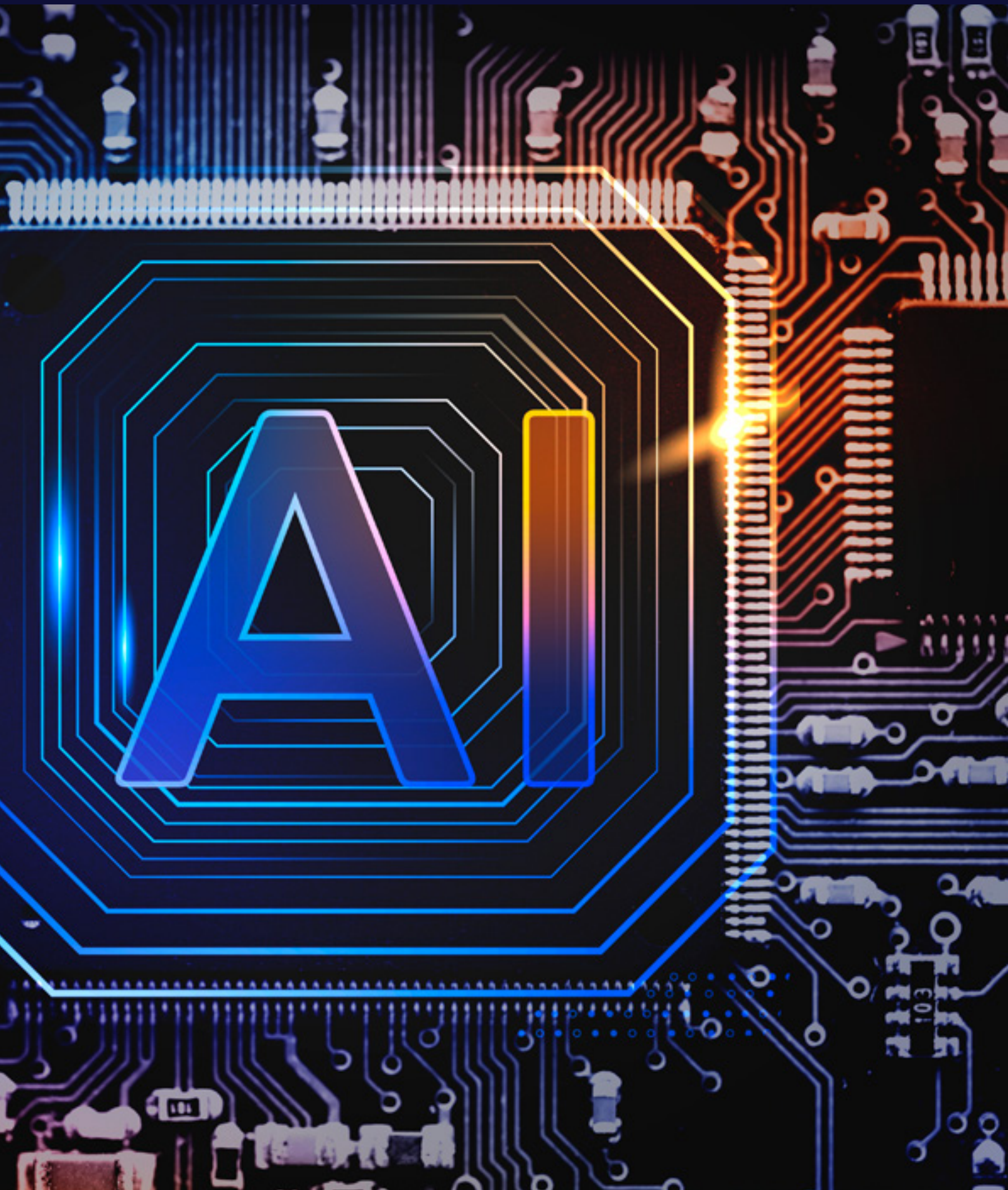
*Interpersonal theory of suicide posits that suicide is preceded by a feeling of being alone and disconnected from others, which leads to a feeling of hopelessness and ultimately suicide.*

As the respond did not sound 'academic' enough, we alter the prompt into: **Explain the interpersonal theory of suicide in a maximum of 40 words with psychology jargons**, and it gave us a respond as follows:

*Interpersonal theory of suicide suggests that suicide is a consequence of a perceived lack of social connectedness, which leads to feelings of hopelessness and a sense of thwarted belongingness, ultimately resulting in the act of suicide.*

Assuming that the question is given by a student who wants to know further about the implication of the theory, we entered the prompt "give an example





of the implication of interpersonal theory of suicide in a maximum of 50 words, and its response was:

*One implication of the interpersonal theory of suicide is that individuals who have a strong sense of social connectedness, strong relationships, and a sense of belonging may be less likely to experience suicidal thoughts and behaviors. Therefore, interventions focused on building social connections and fostering a sense of belongingness may be effective in reducing suicide risk.*

Assuming that we would like to explain the theory to a person from the non-psychology community with more informal lingo, we altered the prompt into **“Explain the interpersonal theory of suicide in a maximum of 40 words in an informal tone,”** and it generates the response as follows:

*Interpersonal theory of suicide says that suicide happens because people feel alone and disconnected from others, this leads to feeling hopeless and ultimately to suicide.*

Further, we simply tested the capability of the engine to cite the previous findings, so we altered the prompt into:

*“The Interpersonal Theory of Suicide, first proposed by Joiner (2005), posits that suicide is preceded by a feeling of being alone and disconnected from others, which leads to a feeling of hopelessness and ultimately suicide. This theory proposes that individuals with a sense of thwarted belongingness and perceived burdensomeness are at risk of suicide. It suggests that suicide is not a result of a single factor, but rather the combination of these two factors along with the acquired capability for suicide (Joiner, 2005). According to this theory, people who feel disconnected from others and hopeless are at the highest risk of suicide, interventions that focus on building social connections, fostering a sense of belongingness, and addressing hopelessness can be effective in reducing suicide risk.”*

While some educators might look at the artificial intelligence engine such as ChatGPT as a threat to their profession, and even ban it from public schools in New York City because “it does not build critical-thinking and problem-solving skills, which are essential for academic and lifelong success,” we can actually approach it as a tool that might enhance the students’ learning. Especially at the university level, where students have developed enough cognitive skills to interpret the AI-generated responses in a critical way.

Advanced educators who perceive that the engine hinders learning might come from the point of view that the students need to be trained to think critically, while less-advanced educators with the same attitude towards the engine might simply think that the engine can

provide answers to their quizzes and the students would not have to study. With all due respect to these groups of educators, we might want to remember that there was a time when some school teachers banned the use of calculators, and told students, “You won’t be carrying calculator everywhere you go.”

### **The LOTS and the HOTS**

In 1956, Benjamin Bloom proposed an idea that the cognitive processes can be divided into two types called Lower Order Thinking Skills (LOTS) and Higher Order Thinking Skills (HOTS). LOTS refers to basic cognitive processes such as remembering, understanding, and applying information. These are the foundational skills that are necessary for more advanced thinking. On the other hand, HOTS refers to more advanced cognitive processes such as analyzing, evaluating, creating, and metacognition. In the case of the learners at the university levels, we obviously expect the learning to be conducted in a way that stimulates HOTS from the students. Therefore, educators at this level should not expect that their quizzes or exams can be answered by asking their seniors or simply by googling, as it does not imply the use of critical thinking skills. Thus, the next question will be how will higher education benefit from AI-based engines like ChatGPT and improve the students’ HOTS.

### **Ask (correctly) and you shall receive**

As illustrated in the examples at the beginning of this article, the engine offered different answers for the same questions when they are asked in a different manner. Therefore, it is important for the learner to critically think how the questions should be imposed to the programme. While the AI might have learned from multiple sources, it might not have the same ‘understanding’ of the context of our inquiry. Therefore, prompting it “Write an introduction of a study on sense of empowerment and social support” might not give you the response that you would want unless you added elements like “in the Malaysian context” or “with citations from studies between 2018 and 2021.”

In other words, the engine might only be useful when we know how to prompt the correct question, and that requires HOTS.

We have tried to use it in the class of “Clinical Research Methods” for master’s students. We asked the students to open the site, and answer our HOTS questions related to the subject. We found that the students felt that the engine helped them to give them the rough idea to explore further. From the point of view of this educator, we personally see ChatGPT can be useful to enhance learning. But how? Is it ethical? Isn’t it cheating? *Well, ask (research questions) and you shall receive.*