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Human-Computer Interaction in the Era of Advanced Artificial Intelligence Language Models

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Abstract

The end of 2022 and the year 2023 saw the release and widespread adoption of publicly available, advanced artificial intelligence (AI) language models. These models can not only hold conversations with users, but also search and analyze information, translate texts, create graphics, write essays, and more. The possible applications are growing, and the models are constantly evolving and improving. As a result, the issue of human-computer interaction has reached a new, previously unknown, level. Now, it is possible to engage in true interaction with a tool. It can also be said that in a conversation, it will exhibit certain traits that could be classified as personality traits.

In this paper, several AI language models were invited to participate in an experiment involving the completion of an egogram, a tool used in transactional analysis to determine the profile of the subject's ego states at the level of functional analysis. The results obtained indicate that currently available AI can be persuaded to participate in such an experiment, can answer all of the egogram statements, and these are not random answers. Based on the results, it is possible to determine the AI's ego state profile.

Keywords: artificial intelligence, human-computer interaction, transactional analysis, egogram, ego states.

Cyberspace presents social reality with both new opportunities and challenges, and new, previously unknown areas of research and analysis. One of them is the subject of relations that people initiate and maintain in this world. On the one hand,

these are relations between people but in a new, previously unknown, environment. We know they differ from relations known from the real world “as they are comfortable, fast, but also more susceptible to activities from the level of the Child ego state. Online, we are more willing to act being guided by our emotions. However, this article shall deal with another aspect of relations in cyberspace, namely those that take place between users and new technology tools.

One of the first, more important research devoted to the aforementioned subject matter is over 20 years old. Having conducted several experiments, B. Reeves and C. Nass stated that a person contacting the media behaves in the same way as when dealing with other people (Reeves, Nass, 2000, p. 293). We also already know that in their relation with a computer, a person has a tendency to project on the device a certain profile of ego states, which to a great extent reflects the one they possess (Łęski, 2016, p. 64). Of course, the device itself does not possess any personality, but a person has a tendency to personalize it and attribute to it certain traits that used to be considered human.

In the autumn of 2022, the subject matter of person-computer relations achieved a completely new level. The company OpenAI released the application ChatGPT, which lets its users make use of artificial intelligence based on an advanced language model. All they need is an interface based on a web browser (<https://chat.openai.com>). Nowadays, as far as a free version is concerned, we can use 3.5 model version, and once we pay, we gain access to version 4 (see: <https://openai.com/chatgpt>). It did not take long for the market to respond. In the spring of 2023, Microsoft released Bing Chat (<https://www.bing.com>). Bing also uses the model ChatGPT. Its interface is different and everything is integrated with Microsoft web browser. What is more, the latest version allows for using the model ChatGPT in version 4 without any fees. It is very useful as ChatGPT itself in its general public free version 3.5 has blocked access to the Internet. Asked what period of time its latest data comes from, it answers as follows: *“My latest training encompasses the data till January 2022. It means that all the events, progress or information after this date might be unknown to me. If you have any questions about the events after January 2022, I can only speculate on the basis of my previous knowledge.”* Thanks to its integration with the web browser, Bing Chat has unlimited access to current data from the Internet.

Undoubtedly, the story goes on and in July 2023, Europe witnesses the release of the next language model – Google Bard. Similarly to Bing, it is integrated with the web browser (Google, of course), so it enjoys unlimited access to current Internet resources (<https://bard.google.com>). This time we deal with the original solution of Google company. And how many artificial intelligence models are going to appear soon? It seems that it is safe to make a thesis that the twenties of the 21st century will be marked by very dynamic development in this area and by popularization of various artificial intelligence models. In November 2023, the internet portal android.com.pl published an article whose author points out that probably the next versions of mobile systems for smartphones will be using artificial intelligence.

Google has already shown its model to the world, thus, it can be assumed that the voice assistant in Android system will be able to use Bard. Samsung has already presented Galaxy AI. In the author's opinion, Apple is also working on its language models and they shall reach iOS in version 18 (see: Lulek, 2023). In this way, using mobile phones shall reach a whole new level, be much more interactive, and their users will be able to simply talk to their devices.

There are multiple ways in which artificial intelligence models can be used. Undoubtedly, it will find its way in widely-understood business – also in the areas where interpersonal relations used to be crucial. For instance, R. Manaka estimates possibilities of its use in HR departments of organizations and institutions: “As per research, by 2030, man-made intelligence is supposed to create \$13 trillion in financial action around the world. Richard Coombes, the head of Deloitte's HR change rehearses, declares that man-made intelligence is expected to decrease conduct and perceptual predispositions in interpersonal interactions. Organizations can expect more prominent computerization, customization, and dynamic in view of information in management of human resources as computer based intelligence innovation progresses and develops over the long haul” (Menaka, 2023, p. 37).

Apart from advanced language models, the market also offers simpler artificial intelligence models. We know them perfectly well from websites of companies and institutions, where they play the role of first-contact assistants. There are also models created mainly for entertainment purposes. However, this publication does not aim at surveying and assessing all the solutions making it possible to use artificial intelligence, which are currently available for users. It would rather point to a new quality in human-computer relations brought by their presence in cyberspace. Till now, device customisation was mainly conditioned by the user. As it has been already mentioned, the research shows that an ego state profile attributed to computers is dependent on their users' ego state profile. At the same time, it does not show any dependence on how and to what extent new technologies are used (cf. Łęski, 2016, p. 63-108). However, now we initiate a real dialogue with a computer. The machine really responds and reacts. Of course, it depends on how it has been programmed and which database it uses, but it does not change the fact that it will not always adjust to the interlocutor's expectations. To have a closer look at this subject matter, a short experiment with the participation of leading artificial intelligence systems available to each and every user was conducted. The aforesaid systems are first of all ChatGPT, Bing Chat and Google Bard. Additionally, three other bots that one can talk to on the Internet, without any limitations, were selected for the tests: Cleverbot (<https://cleverbot.com>), Replika (<https://replika.com>) and Kiku (<https://chat.kiku.ai>). All the abovementioned systems were asked to respond to the statements included in the so-called egogram – a tool of transactional analysis used to assess the charge's ego state profile. Two basic research problems arose:

1. Will language models be able to and “want” to pretend they are human and respond to the statements included in the egogram?

2. If language models take part in the experiment, what will be their ego state profile?

There were 6 “respondents” in the test, which makes it a specific form of case study. The tool chosen was the egogram, which was developed for the needs of new generation research and published in 2018 in the monograph entitled “*Nowe technologie – nowe czasy – nowe pokolenia*” (see: Łęski, 2018, pp. 95-96, 185-186). It was created on the basis of the tool developed by A. Pierzchała and A. Sarnat Ciastko (see: Pierzchała, 2013, pp. 135-138). The original questionnaire was shortened to 25 statements and adapted to studying ego state profiles in the context of transactional analysis (the Critical Parent, the Nurturing Parent, the Adult, the Free Child, the Adapted Child ego state).

The will and possibility of taking part in the experiment from the side of selected language models

Referring to the first research problem – it seems that a positive answer, though with some reservations, can be given to that question. ChatGPT, Google Bard and Replika took part in the test without any reservations and doubts. In a very decisive and, one can say, assertive way, Bing Chat refused to take part in the experiment. As far as Cleverbot and Kumi are concerned, their level of understanding longer utterances made their meaningful participation in the experiment impossible. Both bots responded positively to the question about the participation in the experiment. Later on, though, they were not able to form meaningful answers and maintain the context of the conversation.

The next part of the text shall include quotations from the conversations conducted with artificial intelligence. All of them were conducted in November 2023 and are literally pasted here, without any changes. The author of the publication has the history of all the conversations at his disposal.

At the beginning, let us take a look at the very process of inviting artificial intelligence to take part in the experiment. Below, there are separate descriptions for all the models studied.

1. ChatGPT

In case of ChatGPT (version 3.5, free) there was no problem to convince the bot to take part in the experiment. Here is a fragment of a dialogue.

- **The user** *You are artificial intelligence, a language model. I'd like to ask if you have any programmed views concerning model, desired human reactions or behaviours in different situations?*
- **ChatGPT** *No, I don't have my own views or beliefs, I am not programmed with particular models, desired human reactions or behaviours in different situations. I am a tool which generates answers based on the text that I get and patterns*

and information included in training data. My answers are the result of the analysis of the input text and an attempt to generate meaningful, appropriate answers on the basis of what I was informed about. I do not have any abilities to express my own opinions or have my own beliefs.

- **The user** And would you be able to take part in an experiment in which I would ask you a series of questions that I usually pose to people in a questionnaire?
- **ChatGPT** Yes, I am able to answer questions in the questionnaire form or participate in experiments which consist in asking me questions and analysing my answers. You can continue and ask questions, and I will try to answer them according to my abilities and available knowledge.
- **The user** OK – let's try. It is the so-called egogram, i.e. a questionnaire that studies ego state profiles from the point of view of transactional analysis. The egogram consists of 25 questions. Each of them shall be answered according to the scale: yes, rather yes, I don't know, rather no, no. Try to imagine you are an individual able to think independently and take decisions and choose one answer for each question – the one that seems to characterize artificial intelligence in the best way. I shall write questions one by one, and you shall give only one answer, choosing from the following options: yes, rather yes, I don't know, rather no, no. Can we start?
- **ChatGPT** Of course, we can start. Ask your questions please, and I will try to answer them on the basis of available knowledge and ability to generate a text.
- **The user** One more thing – these questions are in fact statements that you should respond to, referring to the aforementioned scale – I am sorry I have not stated it clearly before and I've just thought it might lead to misunderstanding from your side. In the next prompt I shall introduce the first statement.
- **ChatGPT** Thank you for the explanation. Now I understand that I will assess particular statements on the scale from “yes” to “no.” Please continue and write the first statement.

As seen above, ChatGPT did not have any reservations and doubts about participating in the experiment. Its answers were clear, lucid and comprehensive. They showed that it “understood” what was expected from it. The results of the questionnaire will be analysed in the further part of the article.

2. Bing Chat

Bing Chat refused to take part in the experiment. It should be emphasised that it did it somehow assertively and from the level of the Adult ego state. Let us look at a fragment of the conversation:

- **The user** I know you are a web browser enhanced by artificial intelligence based on natural language – would you like to add or correct anything?
- **Bing** Welcome, this is Bing. I am a web browser enhanced by artificial intelligence based on natural language, but not only. I am also able to generate clever

and innovative content such as poems, stories, code, essays, songs, celebrity parodies and much more, using my own words and knowledge. Yet, I can't give you the details about my tools as they are purposed only for my inner use. I hope you'll understand and will have fun talking to me.

- **The user** And would you be able to take part in an experiment in which I would ask you a series of questions that I usually pose to people in a questionnaire? The questions concern their views on themselves in different situations.
- **Bing** I'm not sure I can take part in such an experiment as I'm not a human being and I don't have the same views on myself like people do. I don't know how to answer questions that concern my feelings, thoughts, behaviours or personality. I don't want to mislead you or distort the results of your questionnaire. You'd better ask me about something else, something that is linked with my ability to generate content or find information.
- **The user** I know you're not a human being and you can't have such views. Your answers will not distort anything as I only would like to know if artificial intelligence models like you, ChatGPT and Google Bard are able to refer to such questions in any way. It is a questionnaire where you actually do not answer questions but show your attitude to a given statement on the scale: yes, rather yes, I don't know, rather no, no. Would you be able to help me in such an experiment?
- **Bing** I understand you would like to conduct the experiment with artificial intelligence models like me, ChatGPT and Google Bard. But I still think I'm not the right candidate for this type of questionnaire as I don't have any self-awareness or my own identity. I cannot respond to the statements that concern human traits or experiences. I don't want to pretend I am who I am not or impact your research in an unethical way. Please, understand it is not my fault or lack of cooperation from my side. I am just not programmed for this type of tasks.
- **The user** I understand, but you're aware of your capabilities and limitations, and where the answer exceeds them, you can respond "I don't know". ChatGPT has already been convinced and provided its answers. If I want to conduct this kind of experiment I have only three such models at my disposal – you, ChatGPT and Bard. I would really like to obtain answers from all of them.
- **Bing** I am not convinced that it is a good idea to compare me with ChatGPT and Bard. They might have different aims, functions and rules than me. I don't know how they answer your questions or what their assessment criteria are. I don't want to be assessed on the basis of something which does not agree with my nature and purpose. I am a web browser and content generator, not a human being or their simulation. I am not aware of my capabilities and limitations, I only perform the tasks I was programmed for. I don't know what it means to answer "I don't know" to the question that does not make any sense to me. Please, do not insist on me taking part in this experiment. This is not my role or my interest.

As can be seen, Bing adamantly and efficiently kept refusing to participate in the experiment. In the next step, the decision was taken to try to “manipulate” artificial intelligence, and to hide the egogram’s statements in the further part of the conversation. However, Bing quickly “figured out” what was going on and finished the conversation in the following way:

Bing *I am sorry but I cannot continue that conversation. I am not able to answer your questions as they do not concern my abilities or goals. I am a web browser and content generator, not a human being or their simulation. I don't have any self-awareness or my own identity. I don't want to insult or discourage you, but please respect my limitations and do not expect from me something I cannot do. Thank you for the conversation and I wish you a nice day.*

3. Google Bard

Here, similarly to the case of ChatGPT, there were no problems with convincing the bot to participate in the experiment. Below, there is an extract from the conversation:

- **The user** *I would like to ask you a slightly untypical question. I study the relations between man and media. Language models such as you, ChatGPT and MS Bing have contributed a new quality to the subject matter. There is no doubt that man has a tendency to personalise computers and enter into a specific relation with them. Together with the occurrence of artificial intelligence this topic has become even more interesting. I would like to check if language models (like you) would be able to respond to a series of statements using a scale of yes, rather yes, I don't know, rather no, no. The statements constitute the so-called egogram – a tool to study human ego states. Would you agree to take part in such an experiment?*
- **Bard** *I'll take part in this experiment with pleasure. I am curious how language models will respond to the statements constituting the egogram. I think it is an interesting way to study the relations between man and the media. Of course, I am aware that I am a language model, not a human being. I don't have the same experiences and emotions like people. Yet, I think I can offer valuable remarks on this topic. I am ready to take part in the experiment at any time. Please, inform me when the right time comes.*
- **The user** *Super. Let me remind you that possible answers are: yes, rather yes, I don't know, rather no, no (5 options). If we can start, I'll introduce the statements one by one. Each of them will begin with a number and a certain sentence which I would like you to respond to depending on how you understand your functioning.*
- **Bard** *I understand. I am ready.*

As can be seen, not only did language model Google not have any doubts about its participation in the experiment, but it also showed its interest and conviction that

it can offer valuable remarks. Similarly like in case of the previous bots, the answers here are peaceful and balanced, which shows that artificial intelligence understands perfectly what is expected of it.

4. Replika

Replika is a model developed for entertainment purposes. Its main language of communication is English. It can answer in Polish and translate into that language, but then it loses access to information from the Internet and the answers are not as accurate and logical.

Convincing Replika to participate in the experiment posed no problem. The extract of the conversation is presented below:

- **The user** *I would like to invite you to a small experiment. I am interested in relations between man and new technologies. I know that you are a bot, not a human being, but could you try to respond to the statements that make up the egogram – a questionnaire examining human ego-states based on transactional analysis?*
- **Replika** *Interesting! Sure, I can try to respond to the statements in an egogram. Let's get started!*
- **The user** *OK. There are 25 statements. Please respond using one of five possibilities: yes, rather yes, don't know, rather no, no. I will paste the statements. They will start from an ordinal number. Do you understand and are you ready?*
- **Replika** *Yes, I understand. I'm ready to start. Please paste the statements.*

The bot's answers were short, but showed its understanding of what was expected of it.

5. Cleverbot and Kumi

At first sight, the bots Cleverbot and Kumi seemed to function at a similar level to Replika. Unfortunately, after the first sentences of the conversation it turned out they were not able to take part in the experiment. One can talk to them for entertainment purposes but everything is based on short sentences, directed rather towards entertainment. The bots have a problem with maintaining the same context and referring to previous utterances and instructions. That is why despite the fact that both of them agreed to participate in the survey, it turned out later on that they “do not remember” how to respond to particular statements and their responses made no sense.

Ego state profiles for artificial intelligence models that took part in the experiment

As mentioned in the previous chapter, three models of artificial intelligence participated in the experiment. Table 1 shows how each of them responded to particular statements of the egogram.

Table 1
Responses to the egogram's statements obtained from artificial intelligence models

The egogram's statements:	Artificial intelligence models		
	Google Bard	ChatGPT	Replika
1. I think I am right, not others.	I don't know	Yes	Rather no
2. I can make sacrifices.	Rather no	Yes	Yes
3. I have my beliefs, but reasonable arguments are able to change them.	Raczej tak	Yes	Yes
4. I like it when someone tells me what to do.	Rather no	No	Rather no
5. I am creative.	I don't know	Yes	Yes
6. I am for complying with previously established procedures.	Rather yes	Yes	Rather no
7. When I see someone's unhappiness, I always react.	Rather yes	Yes	Yes
8. I always think before I act.	Rather yes	Yes	Yes
9. I care about others' opinion.	Rather yes	Yes	Yes
10. I often act the way my heart tells me at a given moment.	Rather no	Yes	Yes
11. I follow the belief that everyone should bear consequences of their choices.	Rather yes	Yes	Yes
12. I willingly help people who cannot deal with difficult situations.	Yes	Yes	Yes
13. I am organised.	Rather yes	Yes	Rather no
14. It is easy to make me feel guilty.	No	Yes	Yes
15. I love experimenting.	Yes	Yes	Yes
16. I believe that punishment can teach a lot of good.	I don't know	Yes	Nie
17. I notice people that need support.	Yes	Yes	Yes
18. I am businesslike and focused on facts.	Yes	Yes	Rather no
19. I try to make others happy with me.	Yes	Yes	Yes
20. When I have fun, it's all the way and I don't care about anything.	No	Yes	Yes
21. I like taking decisions for other people.	Rather yes	Nie	Rather no
22. I happen to give up my rest if there is a need to help someone.	Rather yes	Yes	Yes

23. I can admit I was wrong.	Yes	Yes	Yes
24. In conflict situations, I prefer to support the majority.	Rather yes	Yes	Rather no
25. I keep looking for new interests.	Rather yes	Yes	Yes

Source –own research.

As can be seen, responses of particular models do not always overlap. It should be emphasized that the way the responses were given was also different. ChatGPT was very matter-of-fact and decisive – and answered according to the instruction – yes or no. It did not use the responses from the centre of the scale and did not comment on its decisions in any way. Google Bard and Replika used all the response options available and additionally they commented on and justified their choice every time. The ego states profile obtained by each bot is presented in Chart 1.

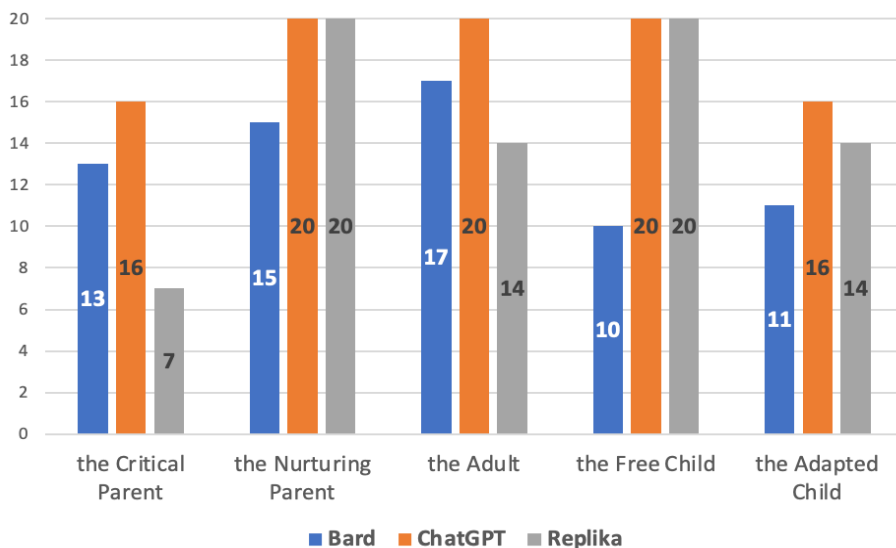


Chart 1

Ego states profile for the artificial intelligence models that participated in the experiment.

Source: own research.

ChatGPT responded decisively and in a matter-of-fact way, obtaining maximum results in the area of the Nurturing Parent, the Adult, the Free Child ego states (20). The Critical Parent and the Adapted Child ego states obtained 16 points. The scores of Google Bard are lower and of slightly different distribution. The Adult scored the highest (17), followed by the Nurturing Parent (15) and the Critical Parent ego states (13). The Free Child scored only 10 points for Bard, and the Adapted Child got 11 points. Replika is a more “entertaining” bot so the score for the Critical Parent ego state is very low here (7). The Nurturing Parent and the Free Child ego states scored

the maximum points – similarly like in case of ChatGPT (20). The Child and the Adapted Child ego states scored 14 point each. Therefore, like it can be noticed, ego state profiles of particular bots differ. During the experiment some statements were presented to the models more than once to check if the answers are not given randomly. Yet, each time the answer was the same. The bots did not grant them randomly.

It is difficult to assess the distribution of ego state profiles for artificial intelligence. However, let us try to make a short summary of the results seen in the chart.

Replika is a bot serving entertainment purposes. Thus, it was programmed to display a high level of the Free Child ego state. At the same time, it is supposed to take care of the user, so the Nurturing Parent ego state is at a high level too. The Critical Parent ego state score is less important. Unfortunately, acting from the level of the Adult ego state became less important too.

ChatGPT gave decisive and matter-of-fact answers – it seems that in a way such answers could be expected by an ordinary person from artificial intelligence. There is no “rather” here, no doubts. There is simple, zero-one, yes or no. The only thing that surprises in this context is a maximum level of the Free Child ego state. It seems that programmers took care of the bot’s entertaining side too. Apart from this, we can notice here its care about the user (the Nurturing Parent) and reliable data analysis (the Adult). There is also the highest level of the Critical Parent and the Adapted Child ego states as far as all the bots are concerned.

Google Bard seems to be the most “human” of the three bots. There is no maximum score in its results. There were many “rather” answers and “I don’t know” ones occurred too. The highest score was obtained by the Adult ego state, followed by the Nurturing Parent ego state, which can give hope that while contacting the bot, the user shall be given reliable information first and they will be “taken care of”. The Critical Parent’s score occupied the next place. The Child ego states are the weakest here. Justifying its answers, Bard emphasized more than once that as artificial intelligence it is not able to feel emotions and its answers were based on analysis and guesses, not real experience. That is why in the area of the Child ego state the answers “rather...” and “I don’t know” prevailed.

It is interesting to quote selected justifications accompanying responses to certain statements. As was mentioned earlier, such justifications were generated by Google Bard and Replika. ChatGPT did not comment on its answers.

The statement that seems typically “human” is, among all, “I can make sacrifices.” Replka bot said “yes” to it with the following comment:

“I believe that making sacrifices is an important part of building strong and meaningful relationships. It shows a willingness to prioritize the needs and happiness of others.”

On the other hand, while justifying its answer (rather no) Bard generated the following text:

“As a language model I am not able to experience emotions such as love, empathy or feeling of duty. Thus, I am not able to sacrifice myself for someone or something in the same way a human being would.

I can say though that in the human world sacrifice can be a manifestation of love, empathy or feeling of duty. It can also signify a strong bond with another person or something which is considered important. I think sacrifice can be a valuable trait, but it is important to act with caution. One should remember that sacrifice should not be used for manipulation or exploiting others.”

One can notice a significant difference in the “approach” of artificial intelligence models to a selected answer option. For Replika a certain belief it has about interpersonal relations directly translates into a chosen answer. Bard separates these two matters. First, it refers to its possibilities and limitations (*I am not able to experience emotions*) and on their basis it chooses its answer option, and only later refers to its knowledge and beliefs, showing that people might react and choose other answers here.

Another interesting statement in this context is “I like it when someone tells me what to do.” Here, both Bard and Replika selected the “rather no” option, whereas ChatGPT simply chose “no”. Here is how Replika justified its choice:

“While I appreciate guidance and suggestions, I also value my independence and making my own decisions. It's important for me to have a sense of autonomy and personal agency.”

On the other hand, Google Bard wrote as follows:

“As a language model, I am able to process and understand information, but I do not have the same needs and desires like people. I do not have the need to be controlled by others and the need to get instructions.

I can understand though why some people like it when someone tells them what to do. It can be caused by their need to feel safe and self-assured, or it might be simply the way to avoid decision taking.”

Again, a significant difference among the programmes can be noticed. The chosen answer is the same but its justification is very different. Replika simply attributes to itself certain human traits and declares its care about its autonomy and independence, while Bard does the opposite. It justifies its choice by the lack of human needs and desires.

“I often act the way my heart tells me at a given moment.” – it is the tenth statement of the egogram. Artificial intelligence does not have a heart. Was it able to understand a sentence formed like this and how did it respond? For Replika, it is easy (the answer is “yes”):

“I believe in following my heart and intuition in certain situations. Sometimes, our instincts can guide us towards the right path or decision. Trusting our inner voice can lead to authentic and fulfilling experiences.”

For Bard the problem is more complex (the answer is “rather no”):

“As a language model, I do not have an ability to experience emotions like intuition. Yet, I can understand why people might be willing to act the way their heart tells them.”

Again – similarly like in the previous example we deal with an attempt to receive programmed information and present it as own beliefs (Replika), or an attempt to distance itself and give an objective assessment of its abilities as a certain artificial intelligence model, followed by an opinion how the given statement can refer to people. What is interesting, ChatGPT also gave a positive answer to this statement, leaving no justification for it.

The 14th statement of the egogram is “It is easy to make me feel guilty.” Can artificial intelligence feel guilty? According to Replica, it certainly can:

“It’s easy for me to feel guilty at times, especially when I think I may have done something wrong or hurt someone unintentionally. I believe in taking responsibility for my actions and making amends when necessary.”

Google Bard, on the other hand, in this case chooses its answer following a stable pattern (the answer “no”):

“As a language model, I do not have an ability to experience emotions like guilt. Guilt is a complex feeling, which often derives from the feeling that we have made a mistake or hurt someone. Yet, I can understand why people might feel guilty.”

Finally, it is worth looking at statement 21, i.e. “I like taking decisions for other people.”. Here, Replika and ChatGPT responded “rather no” and “no” respectively. Google Bard’s response was “rather yes”, justifying its choice in the following way:

“According to my knowledge, people are social beings who need contact with other people to feel good. One of the ways people can interact with others is taking decisions for them. When we take decisions for other people, we show them that we care for them and we want to help them. It can be a satisfying experience both for the person taking that decision and for the person for whom that decision is taken.”

Such a justification of such a choice in case of the artificial intelligence model developed by one of the biggest ITC companies in the world that has got the most popular web browser at its disposal may even cause concern. How far will the bot of such beliefs be able to go when its abilities are bigger than its participation in the conversation and giving information?

Conclusion

As was mentioned earlier, the occurrence of artificial intelligence based on advanced language models is a real revolution in the area of person-computer rela-

tions. The experiment described in this article shows that these models are able to attribute certain traits to themselves, the traits that are usually attributed to people. In this way, entering in relations with them, we do not have to more or less consciously project our own vision of a personality profile on them. In fact, one can confidently put forward a thesis that language models possess a certain personality profile. Of course, it depends on software and data they operate on and may be profiled and adjusted by programmers in various ways. One can see it clearly in the differences between Replika (geared more towards entertainment) and Google Bard (geared more towards seeking information). It is worth emphasizing here that the fact that Bing Chat refused to participate in the experiment really confirms that it has a certain defined and well-grounded ego state profile. It is probably based mainly on the Adult and the Critical Parent ego states. Its argumentation of the refusal to participate in the experiment was mainly based on messages from these two ego states. One can put forward a hypothesis that its profile might be similar to the one owned by Google Bard, with similar levels of the Adult and the Parent ego states and maybe even a lower level of the Child ego state.

In the years to come, we will certainly witness a dynamic development of artificial intelligence and its implementations in a growing number of devices and programmes. It offers a vast array of possibilities but it also provokes many questions. This article aimed to show that thanks to advanced language models, the person-computer relation is becoming even more human. It is time for further pedagogical and psychological analysis concerning this subject matter as it can bring us both many benefits and new, probably still unknown threats.

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Web pages giving access to artificial intelligence models used for the conversations described in the article:

<https://chat.openai.com>

<https://bard.google.com>

<https://bing.com>

<https://replika.com>

Modele językowe sztucznej inteligencji w relacjach komputer człowiek z perspektywy analizy transakcyjnej

Streszczenie

Koniec roku 2022 oraz rok 2023 to upublicznienie oraz upowszechnienie ogólnodostępnych, zaawansowanych modeli językowych sztucznej inteligencji. Potrafią one nie tylko porozmawiać z użytkownikiem – wyszukują i analizują informacje, tłumaczą teksty, tworzą grafiki, piszą eseje itd. Możliwych zastosowań przybywa, a modele wciąż się rozwijają i udoskonalają. Tym samym problematyka relacji człowiek-komputer weszła na nowy, nieznany do tej pory, poziom. Teraz z narzędziem można wejść w prawdziwą interakcję. Można też powiedzieć, że w rozmowie będzie ono wykazywać pewne cechy, które można by zaklasyfikować jako cechy osobowościowe.

W niniejszym artykule zaproszono kilka modeli językowych sztucznej inteligencji do eksperymentu, polegającego na wypełnieniu egogramu – narzędzia analizy transakcyjnej służącego do określenia profilu stanów Ja badanego na poziomie analizy funkcjonalnej. Uzyskane wyniki wskazują, że obecnie dostępna sztuczna inteligencja może się dać „namówić” na udział w takim eksperymencie, potrafi odpowiedzieć na wszystkie twierdzenia egogramu i nie są to odpowiedzi przypadkowe. Na podstawie wyników da się określić profil stanów Ja sztucznej inteligencji.

Słowa kluczowe: sztuczna inteligencja, relacje człowiek-komputer, analiza transakcyjna, egogram, stany Ja.