Task with apples - fun Math with neural network AI

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Abstract

To embody the plans of the Creator is pleasure without end, without sorrows, - but how to go through the thicket of details?

Text

Many are interested in: is it possible to teach neural network AI to solve problems like a children's task about apples?

Many believe that tasks of this type really require intelligence, even at a childish level, - because it is necessary to see implicitly formulated, but, nevertheless, unambiguous conditions of the task in the text.

Here is an example - Leonid Panteleev "Task with apples" (1939):

Us from Gomel aunt sent a box of apples. In this box of apples there were a lot.

I started counting apples since morning, - my sisters helped count, my brothers helped count...

And while we counted them, we are terribly tired, - we got tired and sat down and each of us ate an apple.

And how much is left? There are many left we had to rest eight times, - we sat eight times and each of us ate an apple each time.

This is how we solved the task, - apples counted without errors and ate them without problems. In total there were fifty without ten.

And now I ask all the boys and girls try to solve or guess: how many of us were brothers? how many sisters were there?

I guess it's not hard to teach AI how to solve the aunt's apples task.

Moreover, it seems that he will solve it in different ways and find several plausible solutions, because the original human text allows different semantic readings of individual words and their bundles.

There are intellectuals, such as Vitaly Vanchurin, who say - "The whole world is a neural network" [1]

And why not - such an idea leaves room for science and faith and feelings.

Then each of us from the moment of birth - and maybe a little earlier by 9 months - is a living neural network, the creation of previous neural networks - starting from our parents and further back, against the flow of our time stream.

So, the AI that we create will be able to solve all our problems and, no doubt, their own.

Most likely, its possibilities are also not unlimited and, just like ours, they are limited by the optimistic Russian version of the folk rule of the neural network lifestyle - "live for a century, learn for a century - you will die a fool anyway".

When a human child is given the task of apples, only one answer is expected from him:

3 brothers + 2 sisters.

AI will find this answer. But he will find another one, based on a literal understanding of the text of the task.

Here is his other solution:

1. At first, 14 sisters helped me. I rested with them 3 times and on each rest each of us ate an apple, in total we ate 45 apples.

2. Then 2 brothers helped me. I rested with them 5 times and on each rest each of us ate an apple, in total we ate 15 apples.

3. For 8 restes, first with the sisters, and then with the brothers, together we ate 60 apples - this will be exactly 50 without a ten.

I give an example of solving an adult task "about apples" by AI.

Two neighbors - Russia and Japan - have been unable to conclude a peace treaty for many years because of Japan's territorial claims and Russia's intransigence.

The situation is a stalemate, - grandmaster O. Bender would say.

Here is the AI solution:

Japan and Russia are united in the RJF - they create a Russian-Japanese Federation.

The common name of the citizens of the RJF - rossoyapy or japorossy - as you like, - is no worse than rossians.

The benefits of the association are grandiose - after all, many Russian men like Japanese beauties, just like Japanese men like Russian ones.

By the way, - Vladimir Putin on the tatami - well, it is very similar to the Japanese master of ancient martial arts.

I note that Niels Bohr's principle of complementarity allows us to slightly expand the prognostic possibilities of Vitaly Vanchurin's statement:

The whole world - is a neural network

The whole non-world - is a goldfish.

Links
1. https://arxiv.org/pdf/2008.01540.pdf