انجمن علمی علوم کامپیوتر
دانشگاه علامه طباطبایی
COMPUTER SCIENCE SECTION

انجمن علمی ریاضی
دانشگاه تربیت دبیر شهید رجایی

AI: The Future of Education or a Passing Trend?

Artificial intelligence (AI) is rapidly changing various aspects of our lives, including education. There is much debate about whether AI will revolutionize education or become just another passing trend.

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About Me

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Machine Learning Engineer @ Pars System Energy

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Find course materials in:

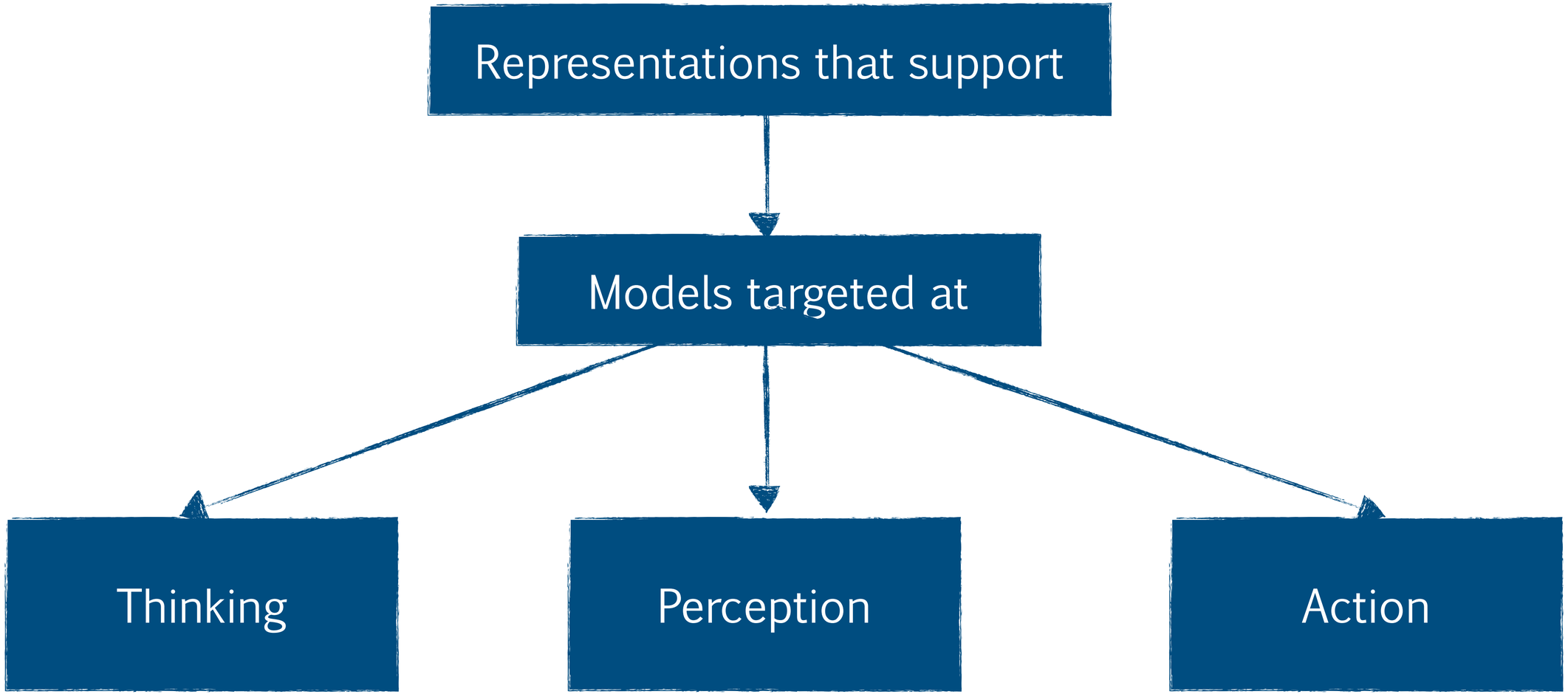
https://github.com/jonathansina/ai-in-education

Outline

What will you learn by the end of this session?

- A.I. Artificial Intelligence
- A Computer Science Model for Learning
- Felicity Conditions
- How Learning Take Place?
- The Virtues of Talking to Yourself
- Designing an A.I. Teacher Assistant with Generative A.I.
- A Passing Trend?

A.I. Artificial Intelligence



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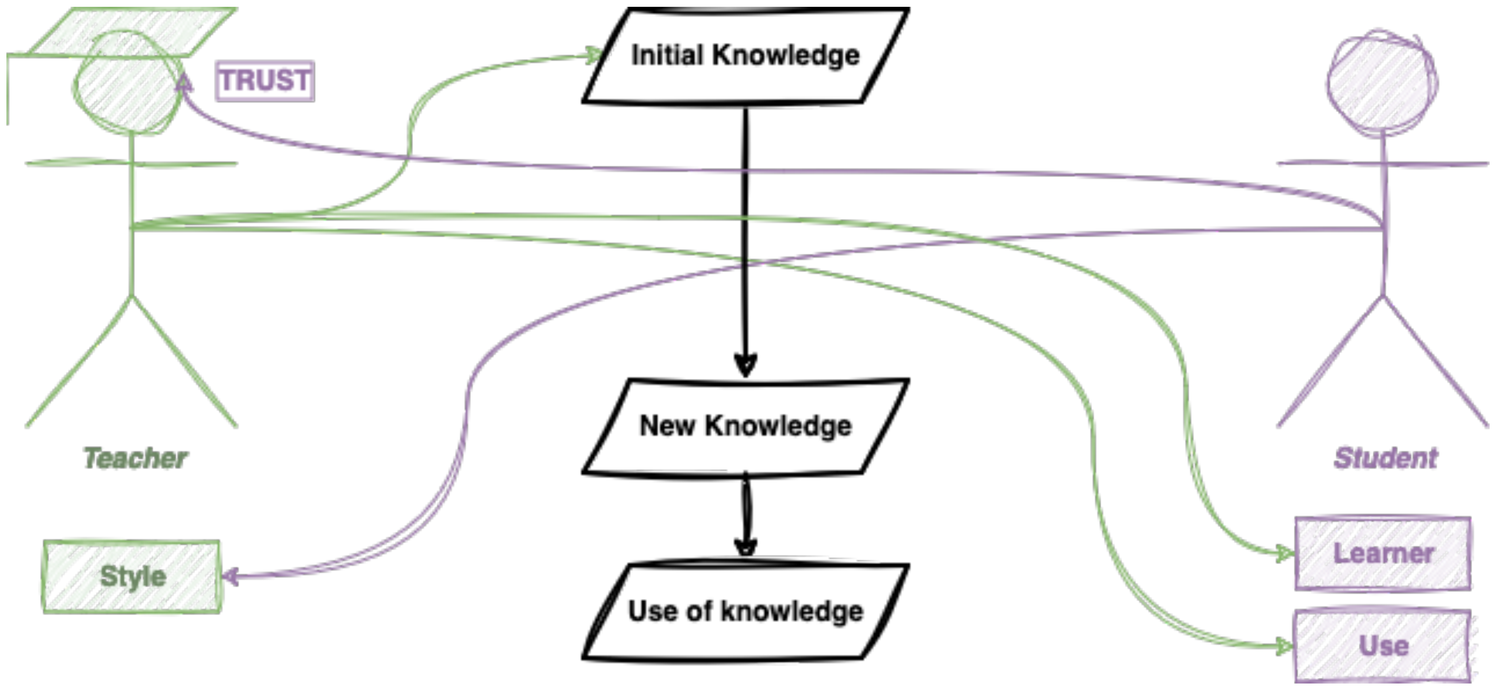
A Computer Science Model for Learning



<u>Objective of interactions:</u> Transform an initial state of knowledge into a new state of knowledge so that the student is smarter and able to make use of that new knowledge to do things that couldn't be done before.

Felicity Conditions

The specific circumstances or contextual requirements necessary for successful communication, understanding and learning.

How Does Learning Take Place?

How Does Learning Take Place?

One side has to know something about the other side

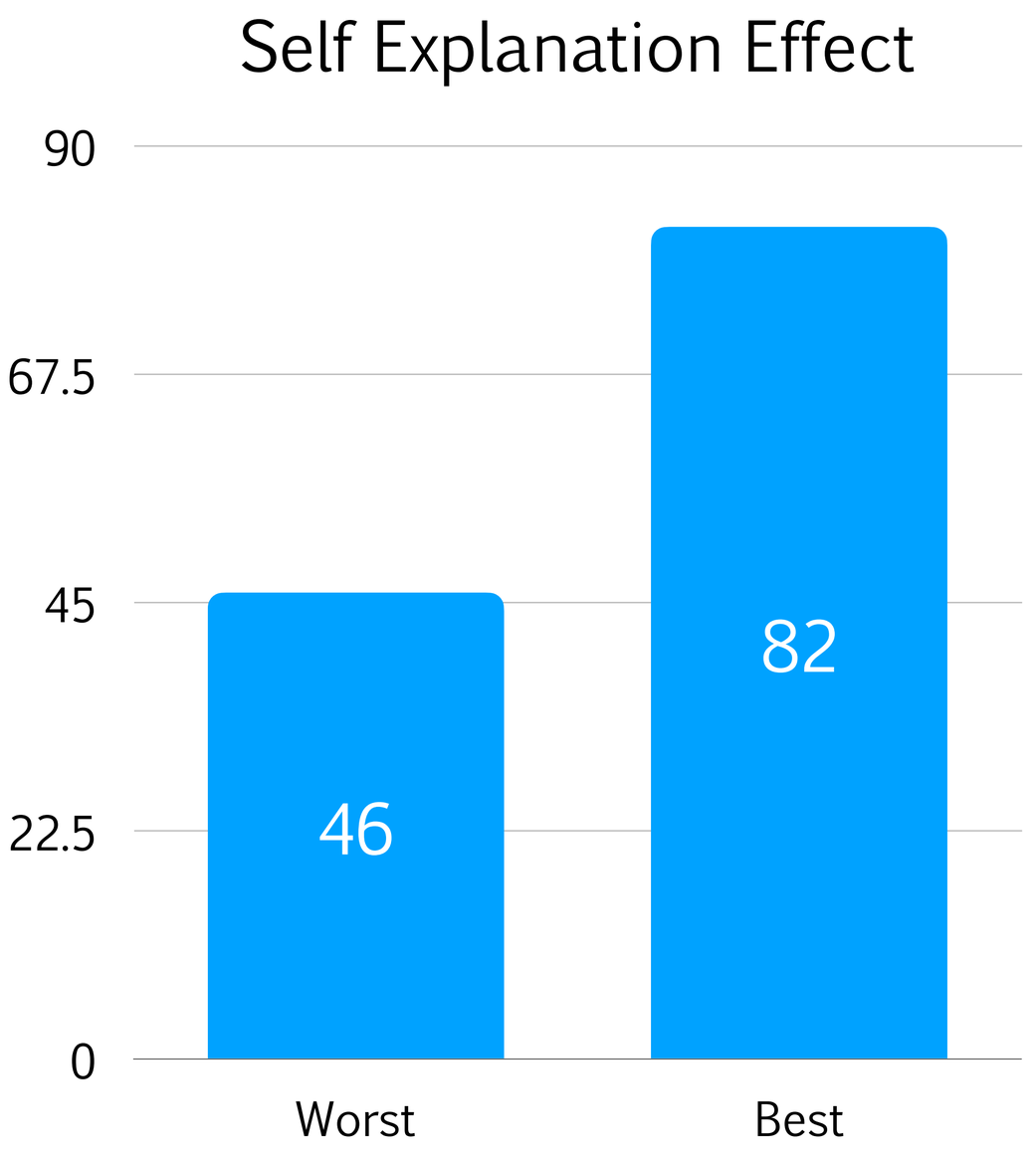
- Initial state of knowledge of students
- Computational capacity of the learner **(Personalized Learning)**
- Computational capacity of the user
- Teacher’s trust **(Trustworthy A.I.)**
- Teacher’s style

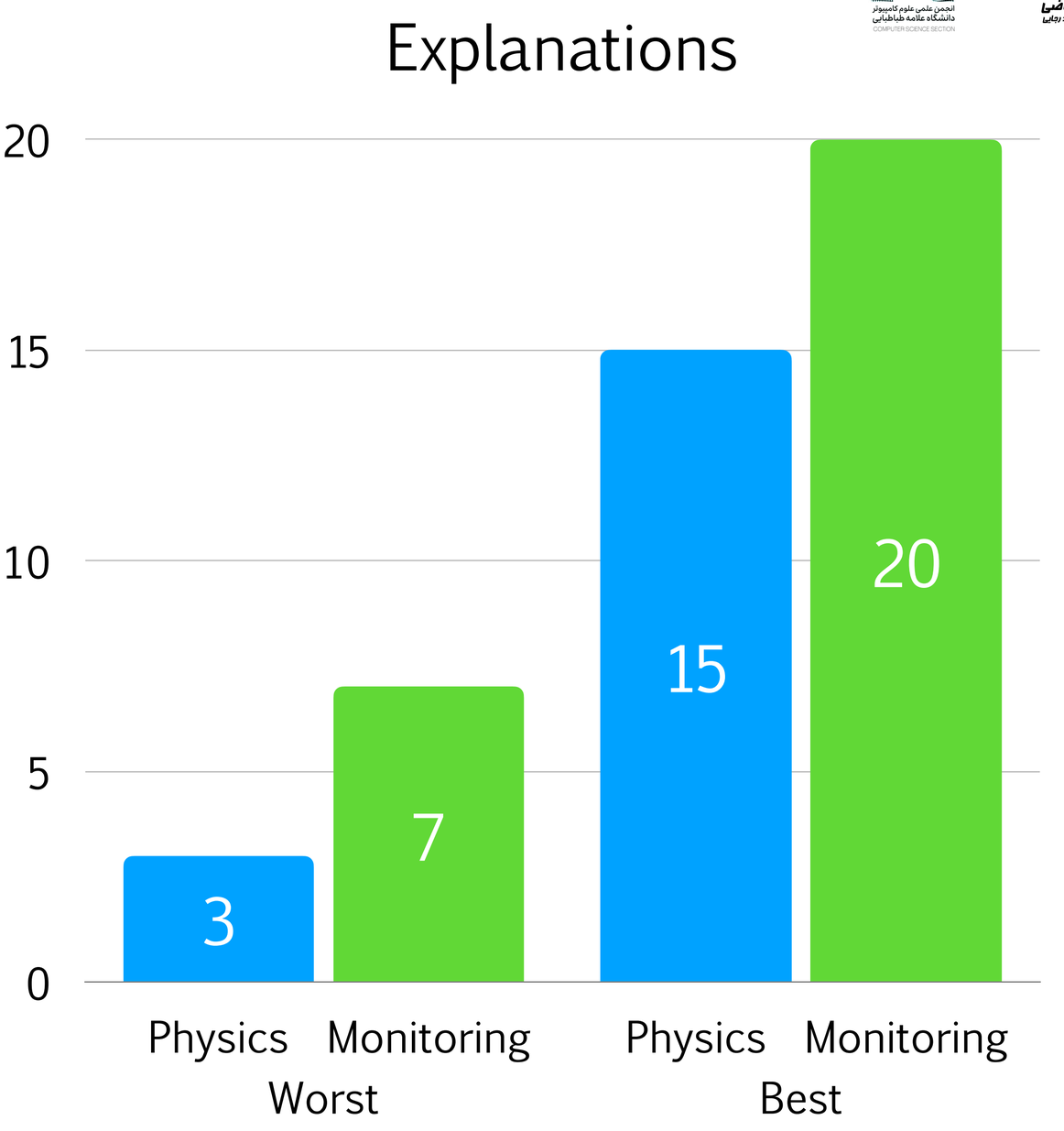
How Does Learning Take Place?, cont.

How does machine lean anything?

- The machine has to build a description, it has to describe the examples to itself.
- Similarly, we can conclude that, students can’t truly learn unless they build descriptions or, in other words, engage in self-reflection (talking to themselves).
- If you talk to yourself, you are building the kind of descriptions that make it possible for you to do learning.

The Virtues of Talking to Yourself


Self Explanation Effect
90
67.5
45
22.5
0
46
82
Worst
Best


Explanations
20
15
10
5
0
3
7
15
20
Physics
Monitoring
Physics
Monitoring
Worst
Best

Eliciting Self-Explanations Improves Understanding

By Michelene T. H. Chi

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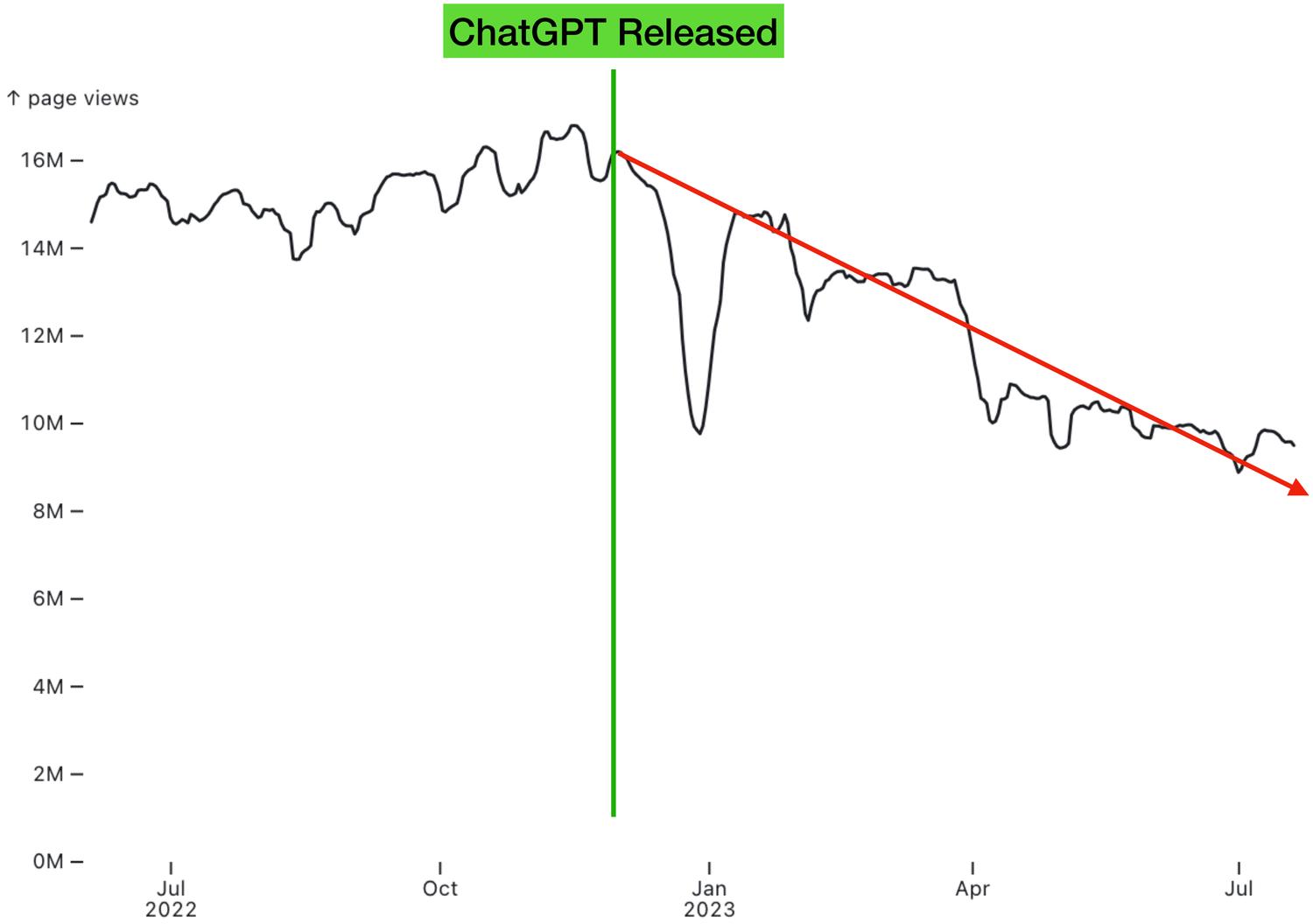
Designing an A.I. Teacher Assistant with Generative A.I.

A Passing Trend?



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Thank You for Your Attention.

We Hope to See You in Future Webinars.