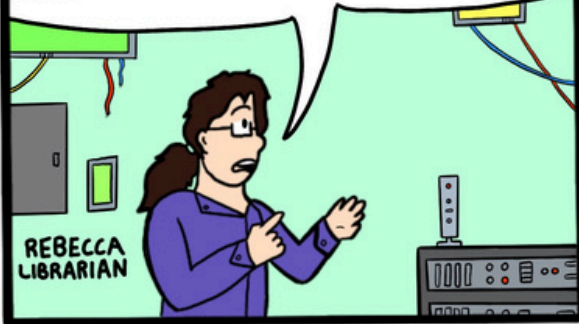


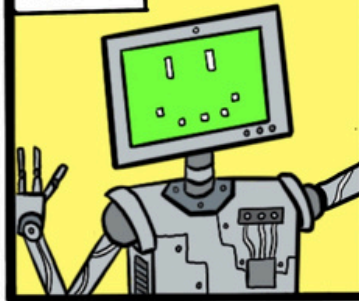
MIMIC IN THE MACHINE: CHATGPT AND AI.

ART AND SCRIPT BY R. KYSER

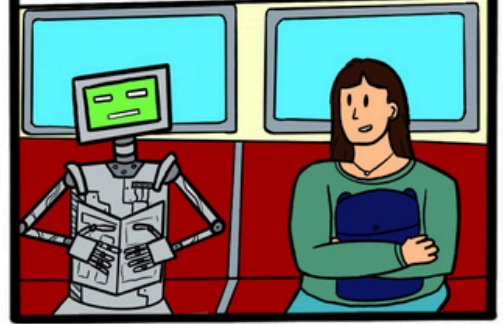
EVER SINCE AI BURST ONTO THE SCENE I'VE SEEN A LOT OF FOLKS MISUNDERSTAND HOW IT WORKS.



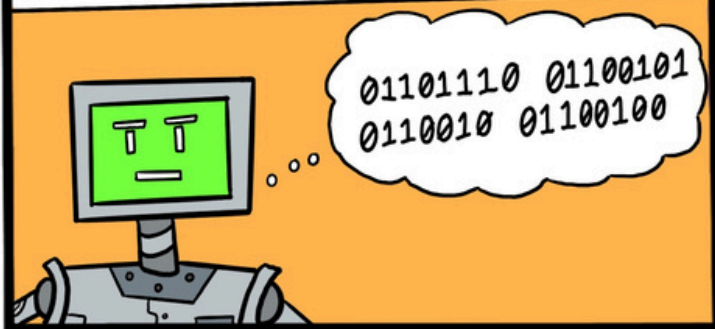
IT'S LIKELY DUE IN PART TO THE NAME: FOLKS HEAR "A.I." AND THINK OF SCI-FI ROBOTS.



CREATIONS THAT CAN DO THE SAME THING AS PEOPLE CAN: THINK AND COMMUNICATE.



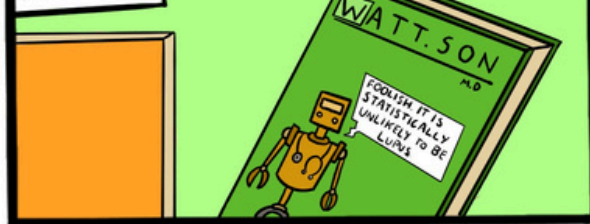
IN REALITY, WHILE AI CAN WRITE OR TALK, IT'S NOT "THINKING" LIKE HUMANS DO.



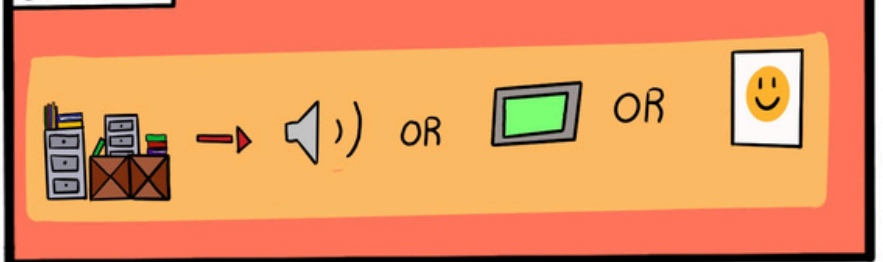
TO UNDERSTAND HOW A.I. "THINKS" WE NEED TO UNDERSTAND WHAT THIS KIND OF A.I. IS AND HOW IT WORKS.



FIRST, THE KIND OF AI SEEN IN MOVIES IS NOT THE SAME KIND IN CHAT-GPT. THAT IS SELF-AWARE AI, WHICH CURRENTLY DOESN'T EXIST OUTSIDE FICTION.



THE A.I. WE SEE DISCUSSED TODAY IS KNOWN AS GENERATIVE A.I. IT CAN PRODUCE THINGS LIKE TEXT, IMAGES AND AUDIO BY BEING TRAINED ON LARGE AMOUNTS OF DATA.



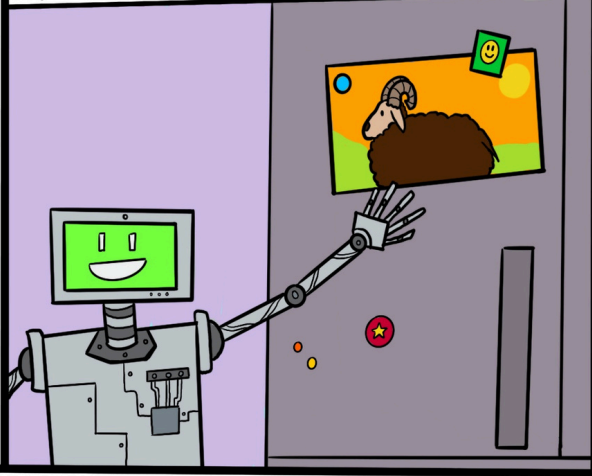
I'M GOING TO VASTLY SIMPLIFY. SAY WE WANT AN A.I. TO MAKE IMAGES OF SHEEP. FIRST WE'D GRAB A BUNCH OF IMAGES OF SHEEP AS OUR TRAINING DATA.



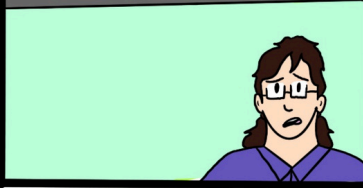
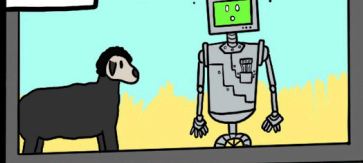
OVER TIME AS WE FEED THE MODEL MORE PICTURES OF SHEEP, THE MODEL STARTS TO IDENTIFY COMMON SHARED CHARACTERISTICS BETWEEN THE IMAGES.



NOW, WHEN THIS WORKS AS INTENDED, AFTER TONS OF IMAGES, OUR AI CAN START TO PRODUCE IMAGES OF SHEEP ITSELF. THIS IS WHY IT'S CALLED "GENERATIVE" AI: IT IS GENERATING NEW CONTENT.



THE AI IS ABLE TO PRODUCE THESE IMAGES NOT BECAUSE IT NOW "KNOWS" WHAT A SHEEP IS, BUT BY ESSENTIALLY LARGE SCALE PROBABILITY. I'M STILL VASTLY SIMPLIFYING, BUT THE AI MAKES THE SHEEP FLUFFY NOT BECAUSE IT KNOWS WHAT WOOL IS, BUT BECAUSE 100% OF ITS TRAINING DATA HAS WOOL.

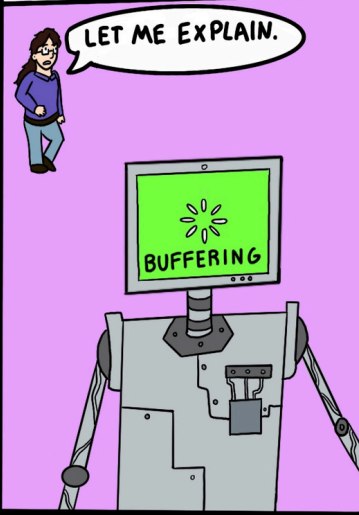


SO IF WE APPLY THIS LOGIC TO WORDS, AI IS CALCULATING THE ODDS OF WHAT WORD IS MOST LIKELY TO FOLLOW THE WORD JUST TYPED. LIKE AUTOCORRECT.

IT WAS A DARK AND STORMY _____.

- A. NIGHT 90%
- B. EVENING 7%
- C. AFTERNOON 2%
- D. DAY 1%

OKAY, SO WHY BOTHER MAKING THIS DISTINCTION? WHY DOES IT MATTER?



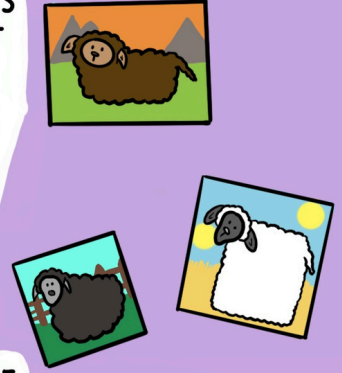
AI RELIES ON TRAINING DATA. LET'S CONSIDER THE SHEEP EXAMPLE FROM EARLIER. IN THE PHOTOS I DREW, NONE OF THEM SHOW A SHEEP'S LEGS.



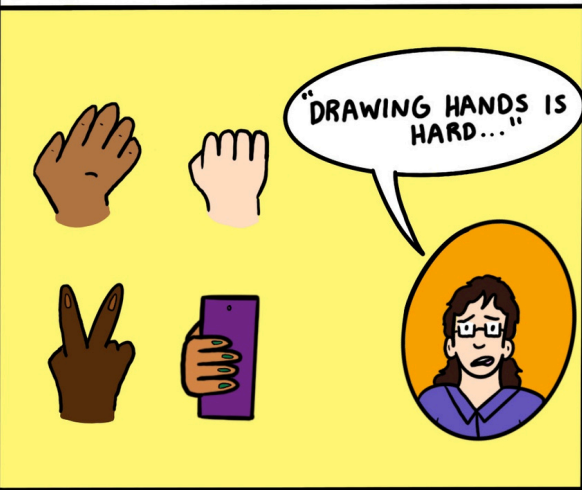
IF ALL THE IMAGES I FEED OUR AI ARE OF SHEEP FROM THE MIDDLE UP, WE MIGHT GET SOMETHING LIKE THESE:

OUR AI CAN ONLY GENERATE BASED ON ITS DATA. SO IF WE FEED IT NO PICTURES OF SHEEP WITH LEGS, WE GET NO PICTURES OF SHEEP WITH LEGS. (FRANKLY, IT ALSO SHOULDN'T MAKE IMAGES OF A SHEEP WHERE THE ENTIRE BODY IS IN THE FRAME EITHER).

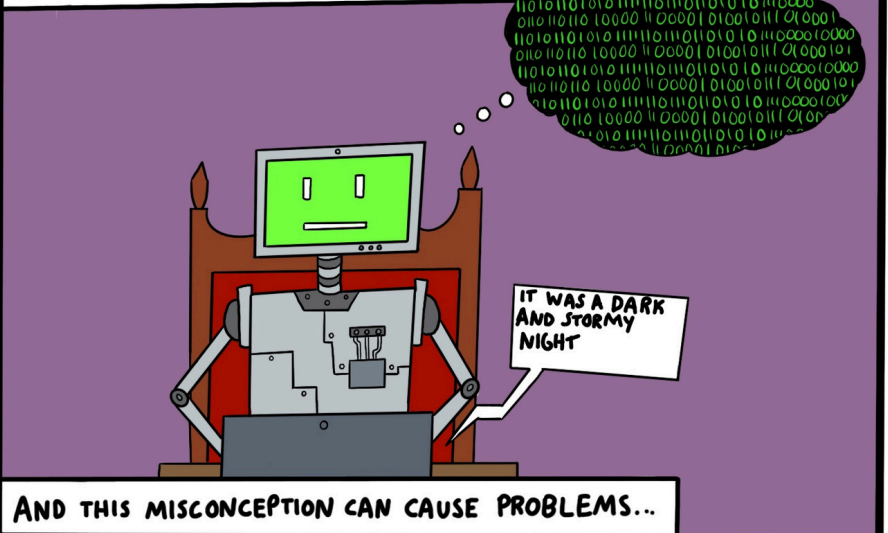
THE BACKGROUNDS WILL BE A MASH UP TOO, AS THE AI WILL CONSIDER IT AS PART OF THE IMAGE. THIS LEADS TO INTERESTING RESULTS WITH A WIDE RANGE OF BACKGROUND TYPES.



THIS IS ONE OF REASONS AI IMAGES STRUGGLES WITH DETAILS LIKE FINGERS: HOW MANY FINGERS YOU CAN SEE IN IMAGE OF A PERSON VARIES WIDELY AND DEPENDS ON THE POSE AND ANGLE OF THE PHOTOGRAPH.

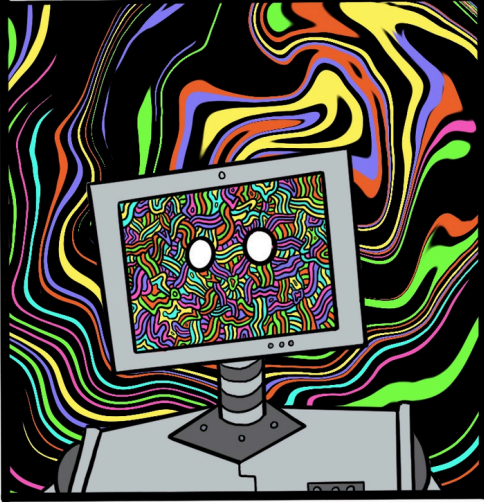


THE SAME GOES FOR WRITING: WHEN AI TYPES OUT "IT WAS A DARK AND STORMY NIGHT" IT HAS NO UNDERSTANDING OF WHAT THOSE WORDS MEAN. IT'S ALL BASED ON PROBABILITY.

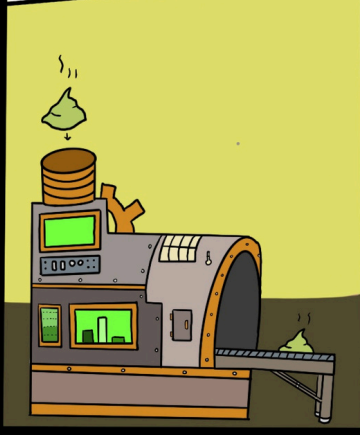


AND THIS MISCONCEPTION CAN CAUSE PROBLEMS...

FOR EXAMPLE, TAKE A.I. HALLUCINATIONS. THIS REFERS TO A.I. ESSENTIALLY LYING TO THE USER. NOW THAT WE HAVE A BETTER IDEA OF WHAT A.I. IS, ITS EASIER TO UNDERSTAND HOW THIS OCCURS.



AI DOESN'T KNOW WHAT LYING EVEN IS, LET ALONE THAT IT IS DOING IT. ITS JUST REGURGITATING TRAINING DATA. SO IF IT ISN'T FED AN ANSWER, OR IF IT'S FED THE WRONG ANSWER, IT WILL PRODUCE A WRONG ANSWER.



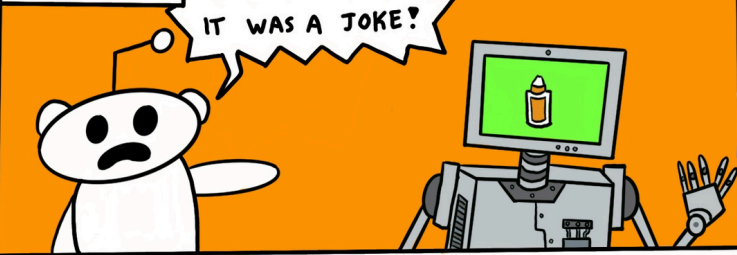
FOR EXAMPLE, GOOGLE MADE HEADLINES WHEN IT RECOMMENDED PEOPLE USE GLUE TO MAKE CHEESE STICK BETTER ON PIZZA.

AT LEAST IT SAID TO USE NON-TOXIC GLUE...



NOW WHERE DID IT GET THIS COOKING TIP? A JOKE POST FROM REDDIT.

IT WAS A JOKE!



GOOGLE MADE A DEAL WITH REDDIT TO TRAIN ITS A.I. ON THE SITE'S DATA IN FEBRUARY 2024.

THAT EXAMPLE WAS PRETTY HARMLESS, BUT IT CAN BE MUCH WORSE. AI HAS TOLD PEOPLE TO EAT POISONOUS MUSHROOMS (), PROVIDED DIETING ADVICE ON A HOTLINE FOR EATING DISORDERS (), OR DISPLAYED RACIAL BIAS.



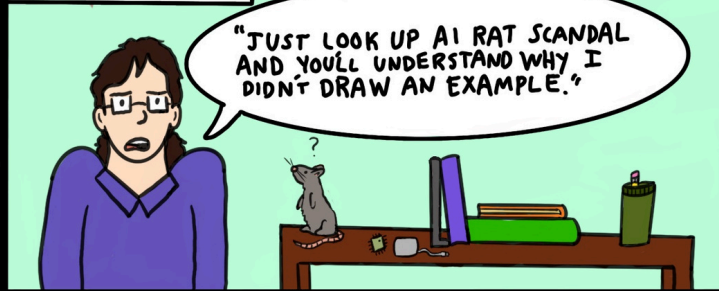
GUEST CHEF DEATH SHOWCASES FAVORITE DEADLY MUSHROOMS

GENERATIVE AI ALSO COMES UP WITH FAKE BOOKS AND PAPERS. OFTEN IT MASHES UP REAL AUTHORS AND JOURNALS WITH FAKE DOI NUMBERS.



AND DON'T GET ME STARTED ON THE WAYS IMAGES CAN GO WRONG.

"JUST LOOK UP AI RAT SCANDAL AND YOU'LL UNDERSTAND WHY I DIDN'T DRAW AN EXAMPLE."



SO IS A.I. WORTHLESS?

ABSOLUTELY NOT!

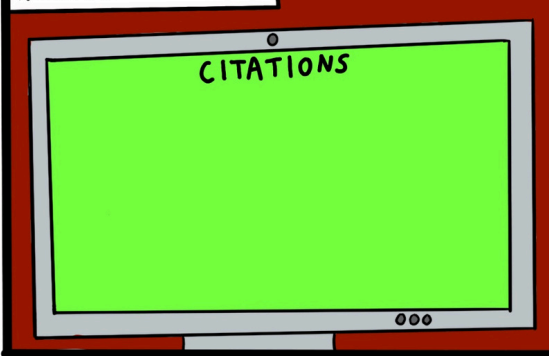


AI ABSOLUTELY HAS USES. WHILE ITS STILL IN EARLY STAGES, AI HAS SHOWN PROMISE IN HELPING DOCTORS IDENTIFY POTENTIALLY CANCEROUS MOLES.

71% CONCERN SHOULD I TAKE A BIOPSY OF BOTH? BOTH IT IS!



BUT IT'S NOT A MAGICAL SOLUTION TO EVERY PROBLEM. AND WHEN WE FORGET THAT, OUR "ARTIFICIAL INTELLIGENCE" IS MORE ARTIFICIAL THAN ANYTHING INTELLIGENT.



Sources:

1. Christian B. *The Alignment Problem: Machine Learning and Human Values*. W.W. Norton & Company; 2021.
2. Lanz D/ JA. AI Kryptonite: Why Artificial Intelligence Can't Handle Hands. Decrypt. Published April 10, 2023. Accessed August 5, 2024. <https://decrypt.co/125865/generative-ai-art-images-hands-fingers-teeth>
3. Robison K. Google promised a better search experience – now it's telling us to put glue on our pizza. The Verge. Published May 23, 2024. Accessed August 5, 2024. <https://www.theverge.com/2024/5/23/24162896/google-ai-overview-hallucinations-glue-in-pizza>
4. AI-powered mushroom ID apps are frequently wrong - The Washington Post. Accessed August 5, 2024. <https://www.washingtonpost.com/technology/2024/03/18/ai-mushroom-id-accuracy/>
5. Wells K. An eating disorders chatbot offered dieting advice, raising fears about AI in health. NPR. <https://www.npr.org/sections/health-shots/2023/06/08/1180838096/an-eating-disorders-chatbot-offered-dieting-advice-raising-fears-about-ai-in-hea>. Published June 9, 2023. Accessed August 5, 2024.
6. Noble SU. *Algorithms of Oppression: How Search Engines Reinforce Racism*. New York University Press; 2018. doi:[10.18574/9781479833641](https://doi.org/10.18574/9781479833641)
7. Welborn A. ChatGPT and Fake Citations. Duke University Libraries Blogs. Published March 9, 2023. Accessed August 5, 2024. <https://blogs.library.duke.edu/blog/2023/03/09/chatgpt-and-fake-citations/>
8. Pearson J. Study Featuring AI-Generated Giant Rat Penis Retracted, Journal Apologizes. Vice. Published February 16, 2024. Accessed August 5, 2024. <https://www.vice.com/en/article/4a389b/ai-midjourney-rat-penis-study-retracted-frontiers>

9. Lewis. An artificial intelligence tool that can help detect melanoma. MIT News | Massachusetts Institute of Technology. Published April 2, 2021. Accessed August 5, 2024. <https://news.mit.edu/2021/artificial-intelligence-tool-can-help-detect-melanoma-0402>