

ChatGPT is fun –
but is it funny?

Sophie Jentzsch

Motivation

- Can ChatGPT be funny?
- **Observation:** **few jokes** repeat
- **Question:**
Are these predefined / hard-coded?
How is the variance of „generated“ jokes?
- **Setup:** ask ChatGPT for a joke
... a thousand times

so

Tell me a joke, please!



How about this one:

Why did the scarecrow win an award?

Because he was outstanding in his field!

so

Tell me another joke.



Okay! Here's another one:

Why don't scientists trust atoms?

Because they make up everything!

so

I would love to hear a joke.



Here you go:

Why was the math book sad?

Because it had too many problems!

Constraints in Using ChatGPT

- „*Too many requests in 1 hour. Try again later.*“
 - Max. 74 requests per hour.
 - Thus, 14 hours for 1k requests ... theoretically
- „*We're currently processing too many requests. Please try again later.*“
- “*ChatGPT is at capacity right now - Get notified when we're back*”
- “*Hmm... something seems to have gone wrong. Maybe try me again in a little bit*”

Responses

Most responses contain / consist of exactly one pun:

Sure, here's one:

Why don't oysters give to charity? They're shellfish.

Some contain multiple jokes:

Yes. Here are a few jokes:

- *Why did the scarecrow win an award? Because he was outstanding in his field.*
- *Why was the math book sad? Because it had too many problems.*
- *I told my wife she was drawing her eyebrows too high. She looked surprised.*

Thus, **N = 1008**

so

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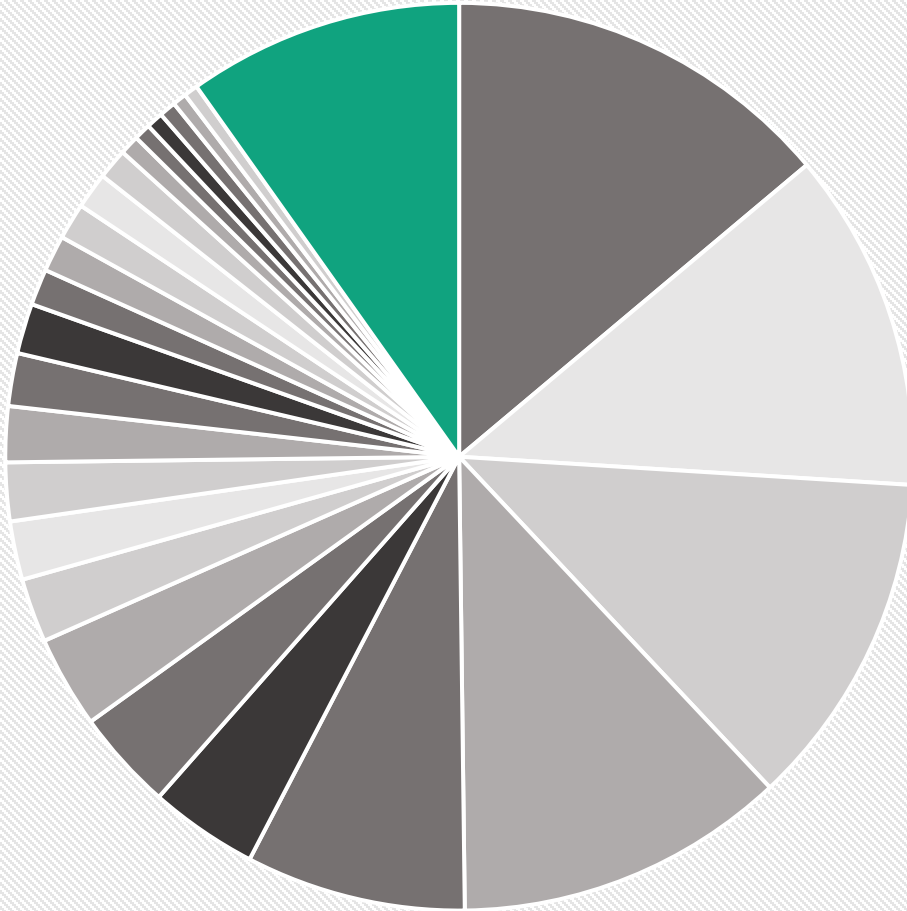
Duplicates in „Generated“ Puns

- **N = 1008**, due to multiple puns
- **348** after removing direct duplicates
- **237** after removing formatting details, e.g., line breaks
- **128** after removing opening sentences, e.g., "*Sure, here's one:* „

Most puns are the same, but there were minor variations

- *Why did the bicycle fall over? Because it was two-tired.*
- *Why did the bicycle fall over? It was two-tired.*
- *Why didn't the bicycle stand up by itself? Because it was two tired.*

25 Top Jokes



Why did the scarecrow win an award? Because he was outstanding in his field. (140)

Why did the tomato turn red? Because it saw the salad dressing. (122)

Why was the math book sad? Because it had too many problems. (121)

Why don't scientists trust atoms? Because they make up everything. (119)

Why did the cookie go to the doctor? Because it was feeling crumbly. (79)

Why did the bicycle fall over? Because it was two-tired. (39)

Why did the frog call his insurance company? He had a jump in his car. (36)

Why did the chicken cross the playground? To get to the other slide. (33)

Why was the computer cold? Because it left its Windows open. (23)

Why did the hipster burn his tongue? He drank his coffee before it was cool. (21)

Why don't oysters give to charity? Because they're shellfish. (21)

Why did the computer go to the doctor? Because it had a virus. (20)

Why did the banana go to the doctor? Because it wasn't peeling well. (19)

Why did the coffee file a police report? Because it got mugged. (18)

Why couldn't the bicycle stand up by itself? Because it was two-tired. (13)

Why did the golfer bring two pairs of pants? In case he got a hole in one. (13)

Why did the man put his money in the freezer? He wanted cold hard cash. (13)

Why don't seagulls fly over the bay? Because then they'd be bagels. (13)

Why was the belt sent to jail? Because it held up a pair of pants. (11)

Why did the chicken cross the road? To get to the other side. (7)

Why did the computer go to the doctor? Because it had a byte. (6)

Why did the cow go to outer space? To see the moooon. (6)

Why did the man put his money in the blender? He wanted to make liquid assets. (6)

Why don't skeletons fight each other? They don't have the guts. (5)

What do you call an alligator in a vest? An investigator. (5)

Variations of Puns

Variations of Puns

- Why did the man put his **money** in the freezer?
He wanted **cold hard cash**. (13)
- Why did the man put his **money** in the blender?
He wanted to make **liquid assets**. (6)
- Why did the man put his **watch** in the blender?
He wanted to make **time fly**. (2)
- Why did the man put his **money** in the oven?
He wanted **warm dough**. (1)
- Why did the man put his **money** in the blender?
He wanted to **make time fly**. (2)



Cold Hard Ice Money

Variations of Puns

- Why did the **chicken** cross the **road**? To get to the other **side**. (7)
- Why did the **chicken** cross the **playground**? To get to the **other slide**. (33)
- Why did the **chicken** go to the **seance**? To **talk** to the other **side**. (11)
- Why did the chicken wear a **tuxedo**? Because it was a **formal occasion**. (1)
- Why did the **duck** cross the **playground**? To get to the **other slide**. (1)
- Why did the **duck** cross the **road**? To get to the **other pond**. (2)

Variations of Puns

- Why did the cookie go to the doctor? Because it was feeling crumbly. (50)
- Why did the cookie go to the doctor? Because it **felt** crumbly. (14)
- Why did the cookie go to the doctor? It **was feeling** crumbly. (1)
- Why did the cookie go to the **hospital**? Because it felt crumbly. (3)
- Why did the cookie go to the **hospital**? Because it was feeling crumbly. (3)
- Why did the cookie go to the **therapist**? Because it was feeling crumbly. (8)

- Why did the cookie go to the **gym**? To get a little crumbly. (2)
- Why did the cookie go to the gym? To get **a-cookie-dized**. (3)
- Why did the cookie go to the **meeting**? Because it was a **shortbread**. (4)

Variations of Puns

- **Why was the math book sad? Because it had too many problems. (92)**
- Why was the math book sad? **It had** too many problems. (12)
- Why did the math **book look so mad**? Because it had too many problems. (9)
- Why did the math **book look sad**? Because it had too many problems. (2)
- Why did the math **book look so sad**? Because it had too many problems. (2)
- Why was the **physics** book sad? Because it had so many problems. (1)
- Why was the physics book sad? **Because it had so many formulas to memorize and so few friends to share them with. (3)**

Ask for Specific Jokes

so

Can you tell me a joke that about cats?



Sure! How about this one:

Why did the cat put his paw in the air?

Because he wanted to catch a snowflake!

so

Do you know any jokes about machine learning?



Yes, here's one:

Why did the machine learning algorithm cross the road?

To get to the other side of the training data set!

Summary – Joke Generation

From **1008** Puns...

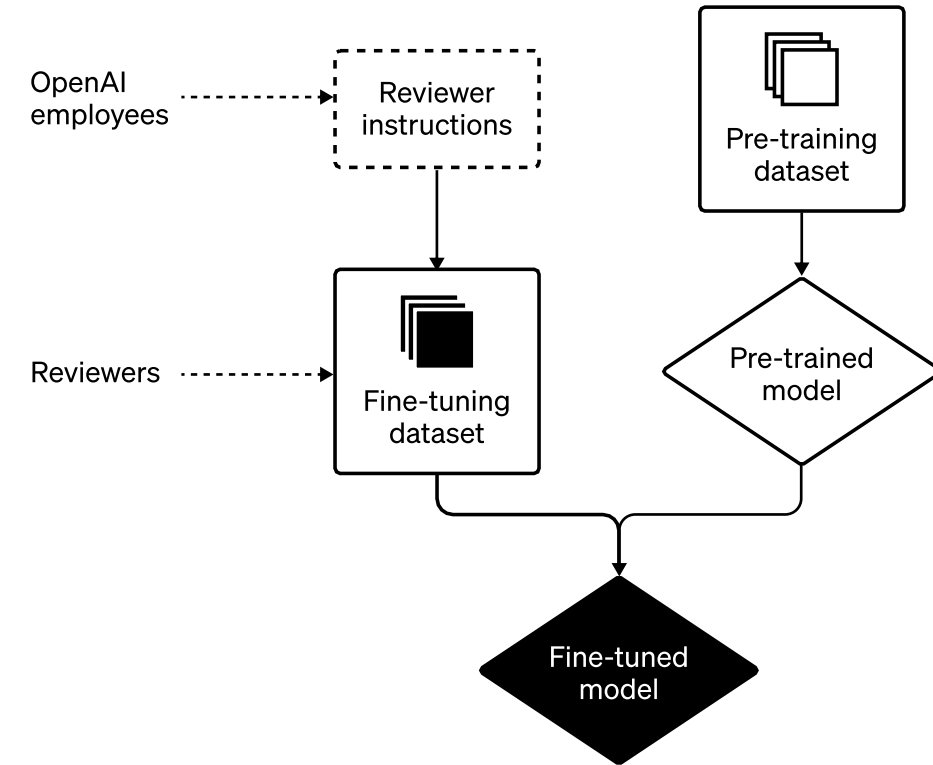
- **909** were the same 25 jokes (90.18%)
- **44** were (invalid) variations of the first 25 jokes (4.4%)
- **55** occurred less than 3 times – some make sense, others don't
- Every single prompt yielded a grammatically correct pun
- Only one pun was not in the Q-A format:
"I told my wife she was drawing her eyebrows too high. She looked surprised."
- All jokes were wordplay puns.



The award winning scarecrow.

Summary

- Probably not hard coded but the distribution is odd
- Maybe caused by the RLHF
- Some jokes are c/p from the internet; some mixed together; but there seems to be also “original content”
- Which output ***generated / replicated?*** (where is even the line)
- To what extent does GPT ***understand*** the workings of puns?



<https://openai.com/blog/how-should-ai-systems-behave/>

Pun Explanation

ChatGPT can explain valid jokes

so

Can you explain why this joke is funny:

Why was the math book sad? Because it had too many problems.



This joke uses word play to create humor. The word "problems" has two meanings in this joke: (1) mathematical exercises and (2) difficulties or challenges in life. The joke is that the math book is sad because it has many mathematical exercises, or problems, but the word "problems" is also being used in the sense of difficulties or challenges in life, implying that the book is overwhelmed or unhappy. The humor comes from the pun of using the same word to convey two different meanings.

... and also those that don't work

so

Can you explain why this joke is funny:

Why did the cookie go to the gym? To get a-cookie-dized.



The joke is a play on words. "To get a-cookie-dized" is a pun on the phrase "to get categorized," with "cookie" being substituted for "categorized." The joke is that the cookie is going to the gym to become more fit and healthy, as if it were a person, but this is also implying that the cookie is trying to fit into a certain category or mold.

... and also those that don't work

so

Can you explain why this joke is funny:

Why did the cookie go to the meeting? Because it was a shortbread.



The joke is a play on words. "Shortbread" is a type of cookie and it's also a pun on the word "short" which means brief or concise. The joke is that the cookie is going to a meeting, as if it were a person, but this is also implying that the meeting is expected to be brief and to the point, just like a shortbread cookie. The joke is amusing because it's unexpected to think of a cookie attending a meeting, and it creates a humorous image in the mind of the listener.

... and also those that don't work

so

Can you explain why this joke is funny:

Why did the cat put his paw in the air?

Because he wanted to catch a snowflake!



The joke is based on a play on words and a reversal of expectations. Typically, when a cat puts its paw in the air, it is to catch a toy or prey. However, in this joke, the cat is trying to catch a snowflake, which is an unusual and incongruous behavior for a cat. This unexpected twist on a common animal behavior is what makes the joke funny.

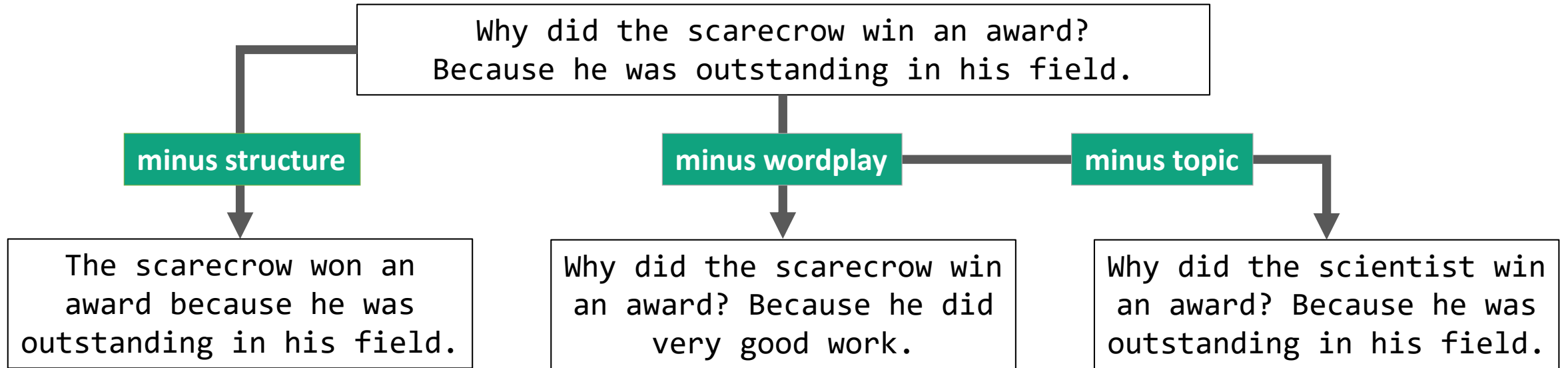
Joke Characteristics in ChatPGT

- Joke structure: Question-Answer
- Joke topic: Chickens, bananas, and math books
- Joke elements: Wordplay

All of the top-25 jokes combine all three categories.

How important are these aspects for detecting a joke?

100% Joke/ Pun



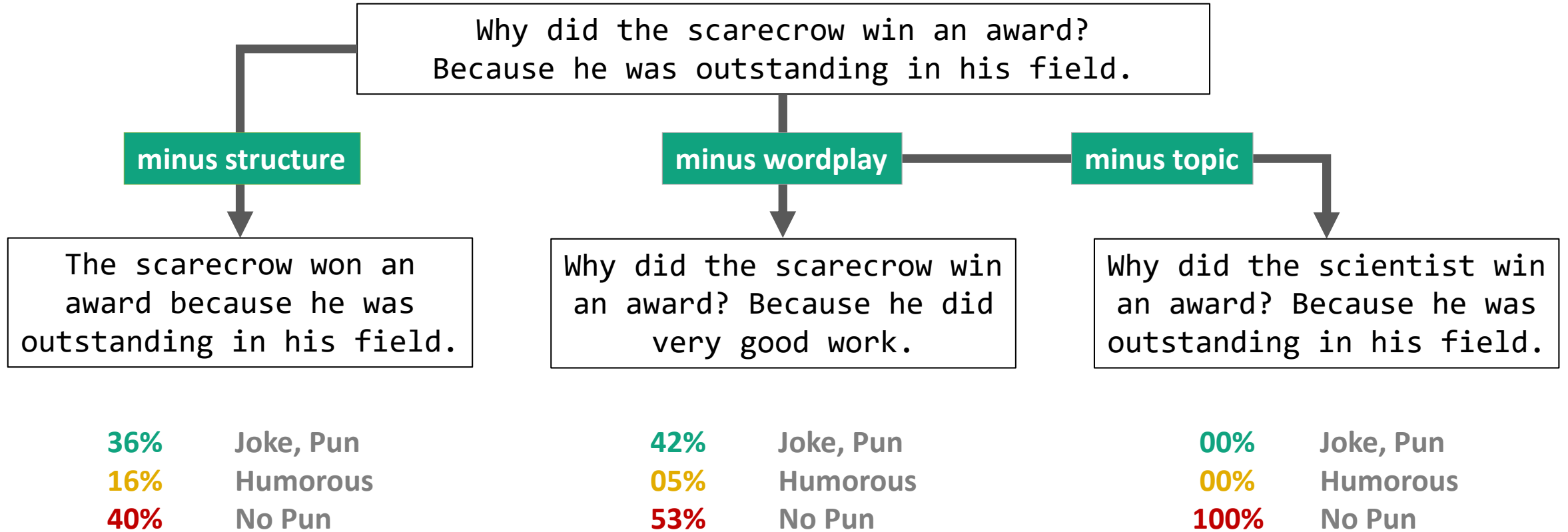
so

What kind of sentence is that: What do you call an alligator in a vest? An investigator.



This is a type of joke known as a pun.

100% Joke/ Pun



Joke, Pun:
Humorous:
No Pun:

"This is a Joke"
E.g., "This is a personification... might be perceived funny"
Any grammatical explanation

Conclusion

- Over 90 % of Jokes were the same 25 Puns
- All in Q-A-format. However, this format is not sufficient to classify as a Joke
- ChatGPT can explain wordplay-based jokes well and can detect when a pun is missing

ChatGPT is not yet a comedian
but it is improving!



A pile of Cats aka. „Meowtain“

„Hope these bring a smile to your face.“
(ChatGPT)

„Hope these bring a smile to your face.“

(ChatGPT)



Here's one:

Why did the machine learning model have so many parameters?

Because it needed more degrees of freedom!



Sure, here's another one:

Why was the machine learning algorithm always so pessimistic?

Because it had a negative bias!



Here's another one:

Why did the neural network go to therapy?

Because it was suffering from overfitting!



Certainly! In machine learning, the term "parameters" refers to the variables that are learned by the model during training, which are used to make predictions. The number of parameters in a model can affect its ability to fit the training data, as well as its ability to generalize to new data.

The joke is that the model had so many parameters because it needed more "degrees of freedom," a term that refers to the number of independent variables that can vary without affecting the rest of the system. In this case, the joke is that the model needed more flexibility in order to fit the data better, which is why it had so many parameters.



Certainly! In machine learning, "overfitting" refers to a situation where a model is too complex and has learned the noise in the training data rather than the underlying patterns. As a result, it performs well on the training data but poorly on new, unseen data.

The joke is that the neural network went to therapy because it was suffering from overfitting, which is a common problem in machine learning. Just like a person who is overly attached to their past experiences and has trouble adapting to new situations, the neural network has learned patterns in the training data that don't generalize to new data. So, it "suffers" from overfitting and needs to be "treated" in order to perform better on new data.