

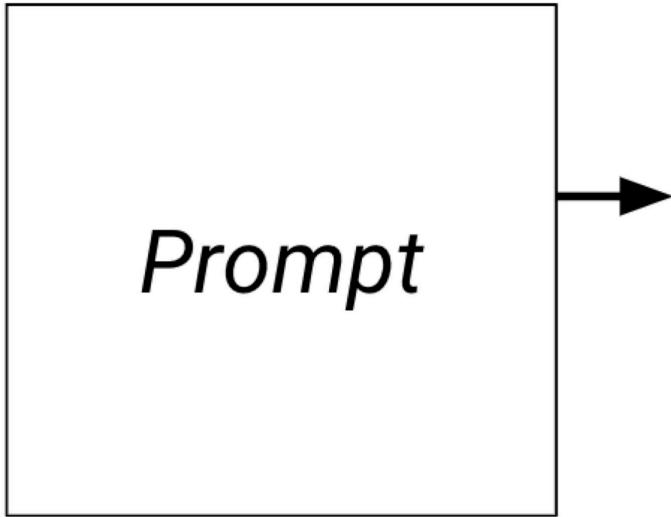
What is generative AI?

GENERATIVE AI CONCEPTS

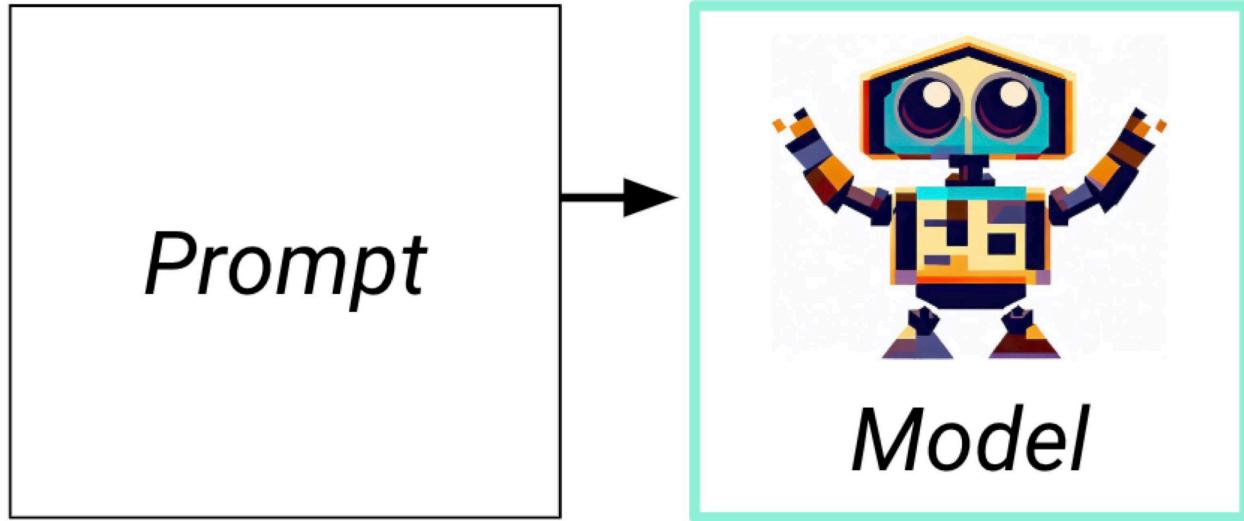


Daniel Tedesco
Data Lead, Google

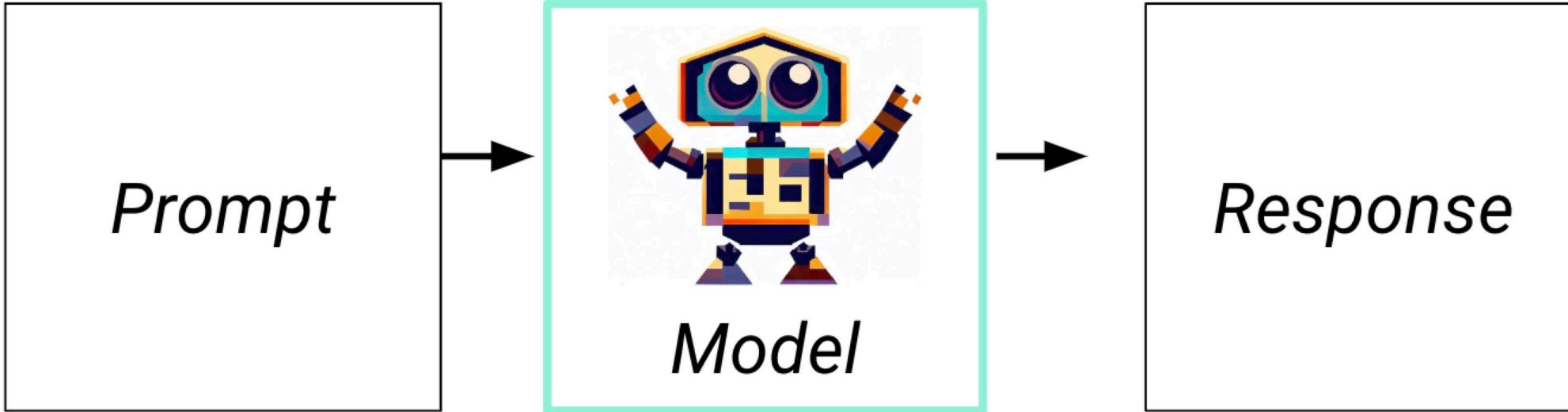
How does it work?



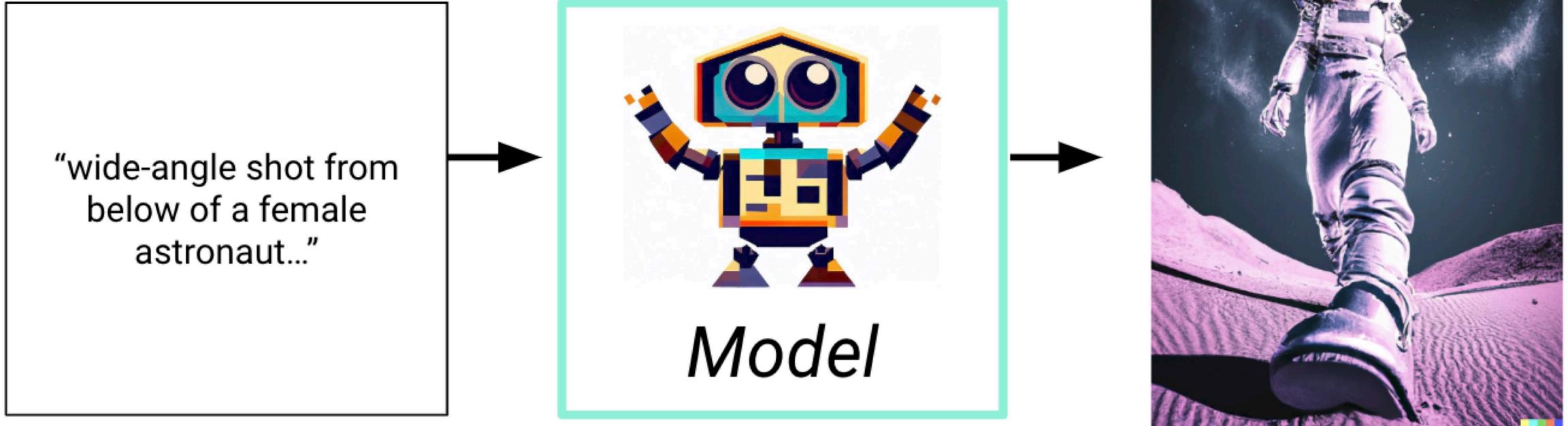
How does it work?



How does it work?

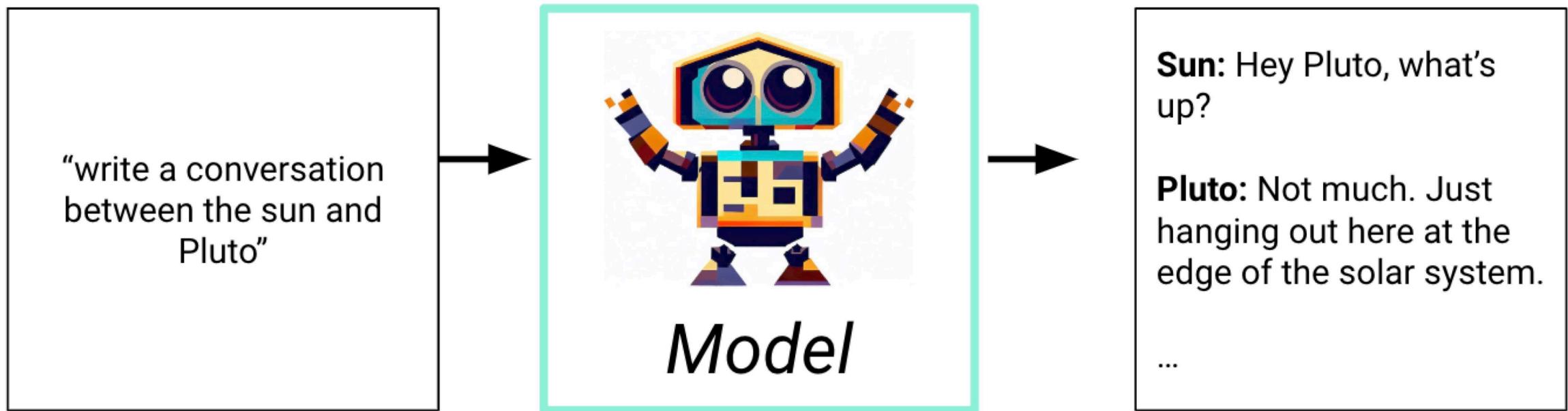


Create images



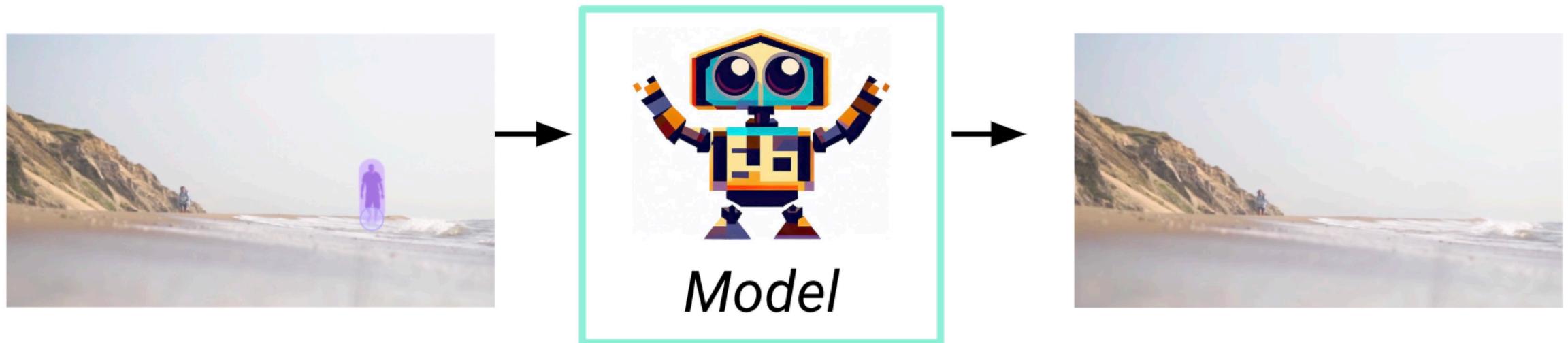
¹ Cosmopolitan Magazine using the Dall-E model

Hold conversations



¹ Facebook's LLaMA model

Input more than text



¹ Runway ML's InPainting Tool, <https://runwayml.com/inpainting/>

Generative AI in the machine learning landscape

GENERATIVE AI CONCEPTS



Daniel Tedesco
Data Lead, Google

Models that analyze

Discriminative models



- Answer closed-ended questions
- Learn from training data
- Guess correct answer or categorize



??



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¹ Wikimedia Commons

Guessing with confidence

Puppy or bagel?



Puppy!



¹ Puppy image from DALL·E 2

Models that imagine

Generative models



- Guess data for a prediction
- Still require training
- Generate new content

¹ Puppy image from Dall-E 2

Mixing for effect

Generative AI:

- Combines generative models with other ML
- Models must work together like parts of a machine
- Produce complex creative work



¹ Cosmopolitan Magazine

Use the right tool for the job

Discriminative Models

- Predict tomorrow's weather
- Categorize books
- Determine if a picture is a puppy or a bagel

Generative AI

- Write code for a website
- Answer unique customer service questions
- Draw a picture of a cat scuba diving

Artificial General Intelligence

- Complete traditionally human jobs

The evolution of generative AI

GENERATIVE AI CONCEPTS



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Generative AI burst on the scene in 2023



¹ Yahoo Finance

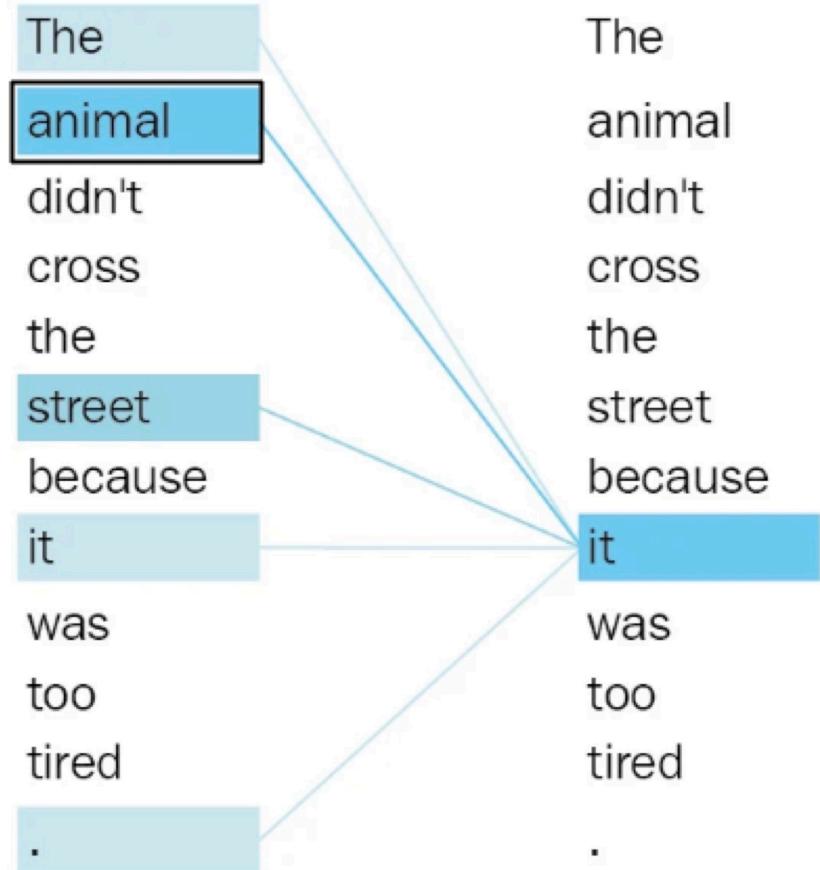
Key factors driving development

Several factors drive generative AI development:

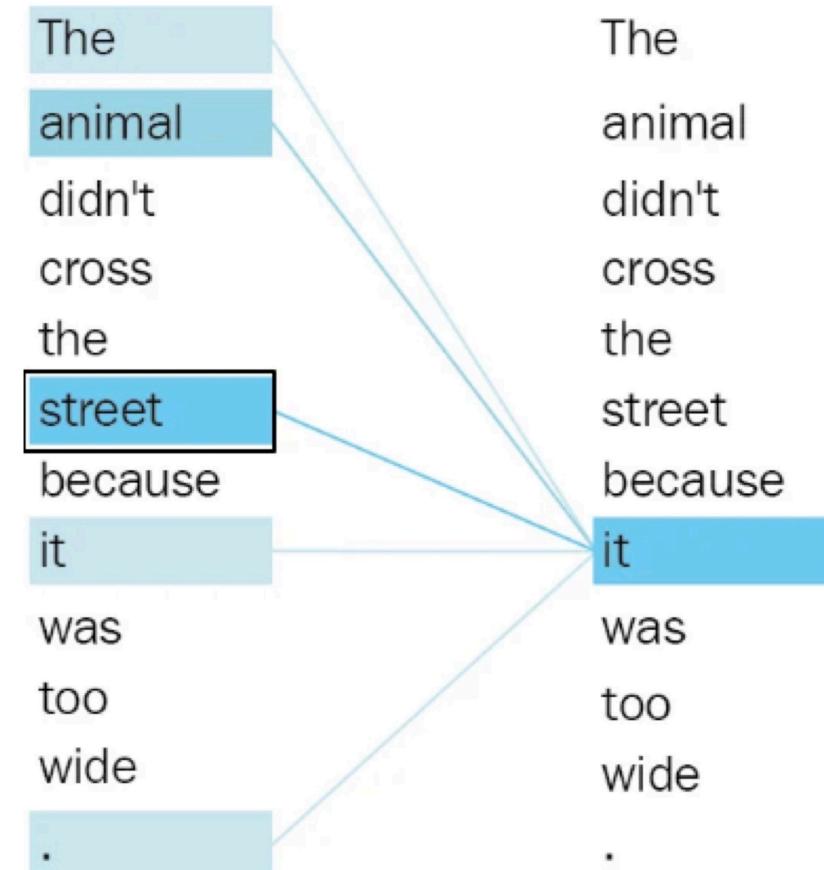
- Computing power
- Dataset availability
- Competitive interests
- Model design

Transformers brought context and coherence

'it' refers to 'animal'



'it' refers to 'street'



¹ <https://ai.googleblog.com/2017/08/transformer-novel-neural-network.html>

Transformers brought context and coherence

Transformers:

- Grasp the context of a given text
- Analyze relationships between words
- Generate responses that feel natural and informative