Pädagogische Hochschule HEIDELBERG University of Education

Einführung in die Funktionsweise von Large Language Models (LLMs) und ChatGPT (3/4)

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ELMEB

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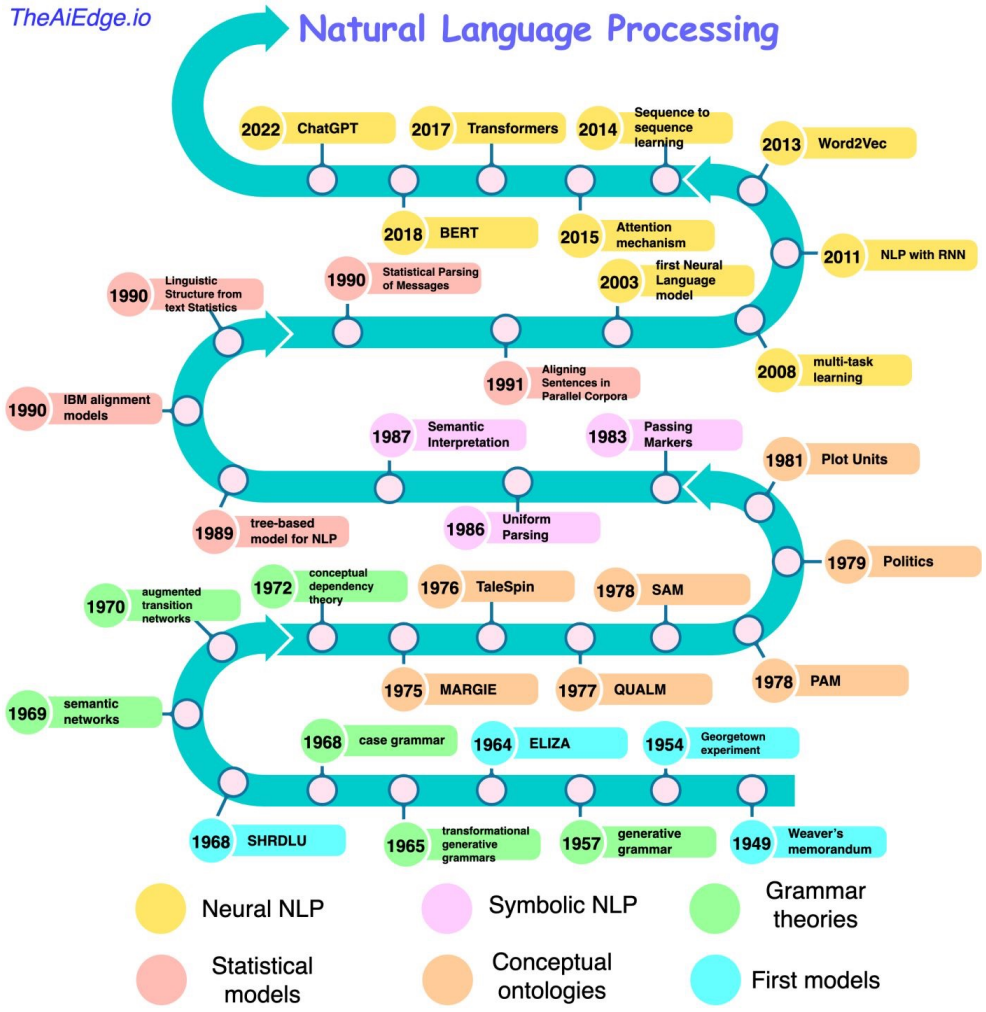
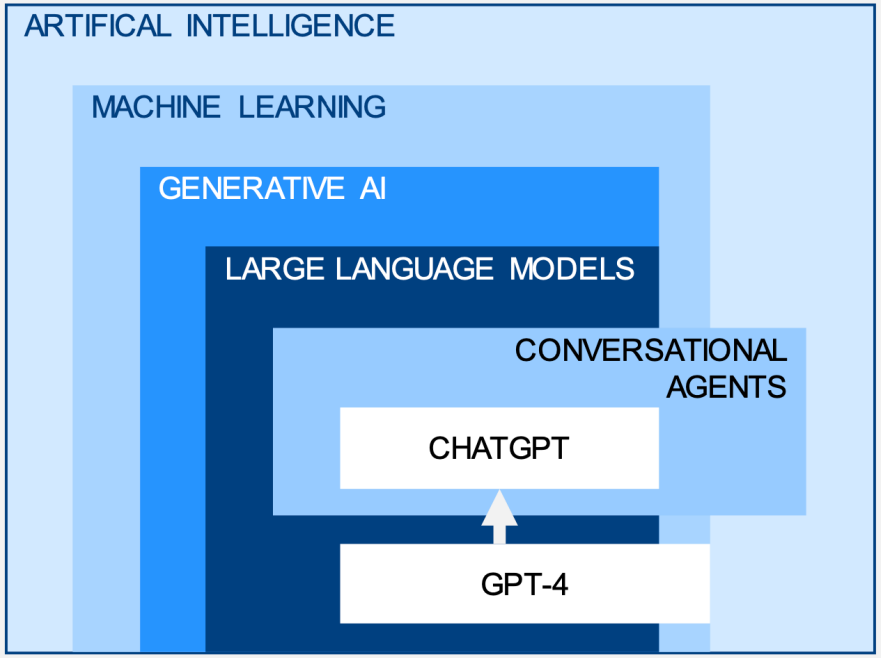
History of NLP



Key concepts related to Generative AI



Gimpel, H., Hall, K., Decker, S., Eymann, T., Lämmermann, L., Mädche, A., Röglinger, R., Ruiner, C., Schoch, M., Schoop, M., Urbach, N., Vandirk, S. (2023). Unlocking the Power of Generative AI Models and Systems such as GPT-4 and ChatGPT for Higher Education: A Guide for Students and Lecturers. University of Hohenheim.

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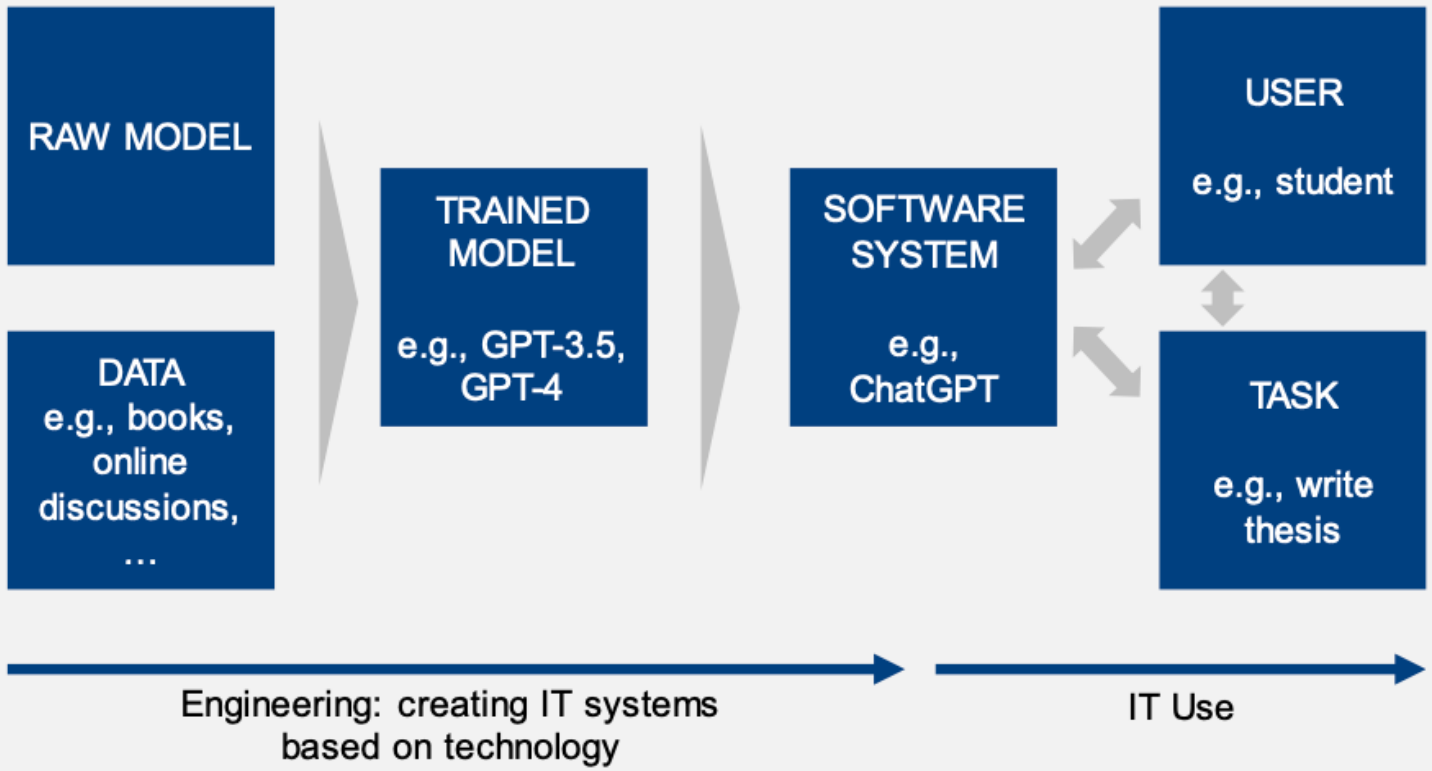
From technology over IT systems to IT use



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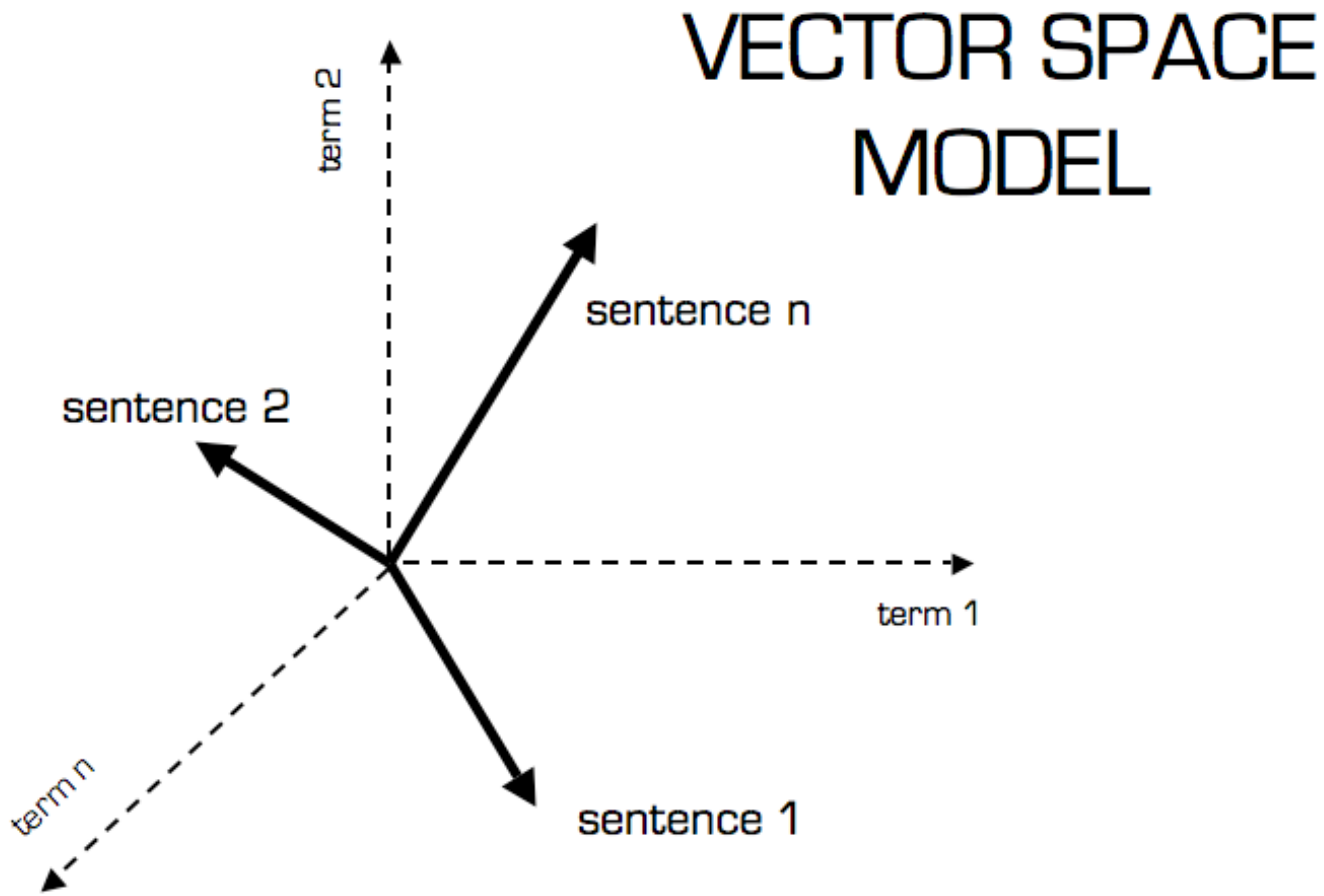
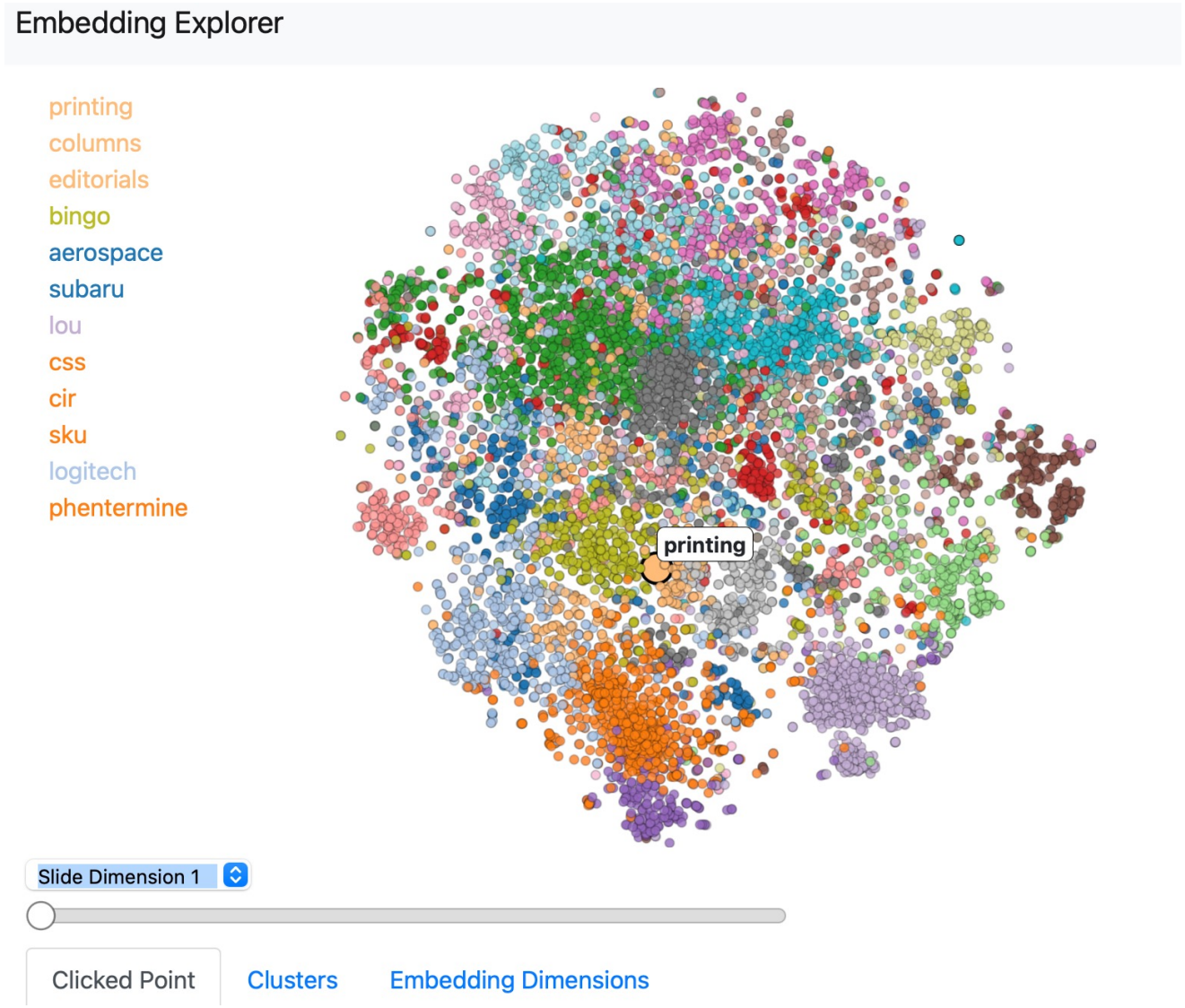
Vektorraum-Modell



ALI MIRAMIRKHANI , 2023

Sprach Embeddings

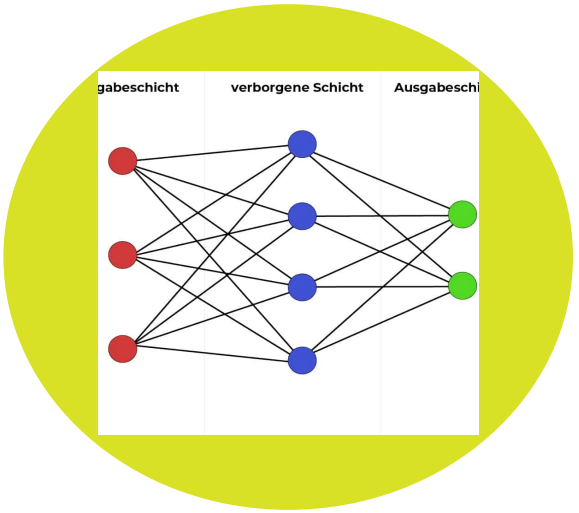


Edwin Chen, 2023

Large Language Model (LLM)

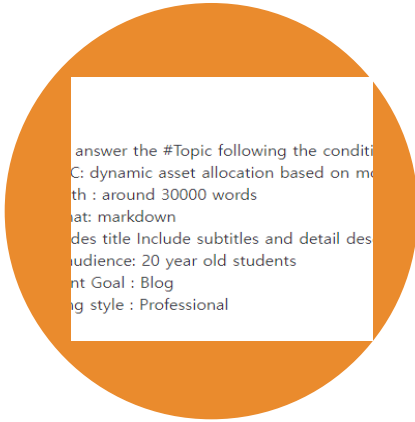
WÖRTER IN ZAHLEN

AUFMERKSAMKEIT



NEURONALES NETZWERK

FINE TUNING



PROMPTING

Wie funktioniert ChatGPT?

Wahrscheinlichkeiten/Probabilitäten

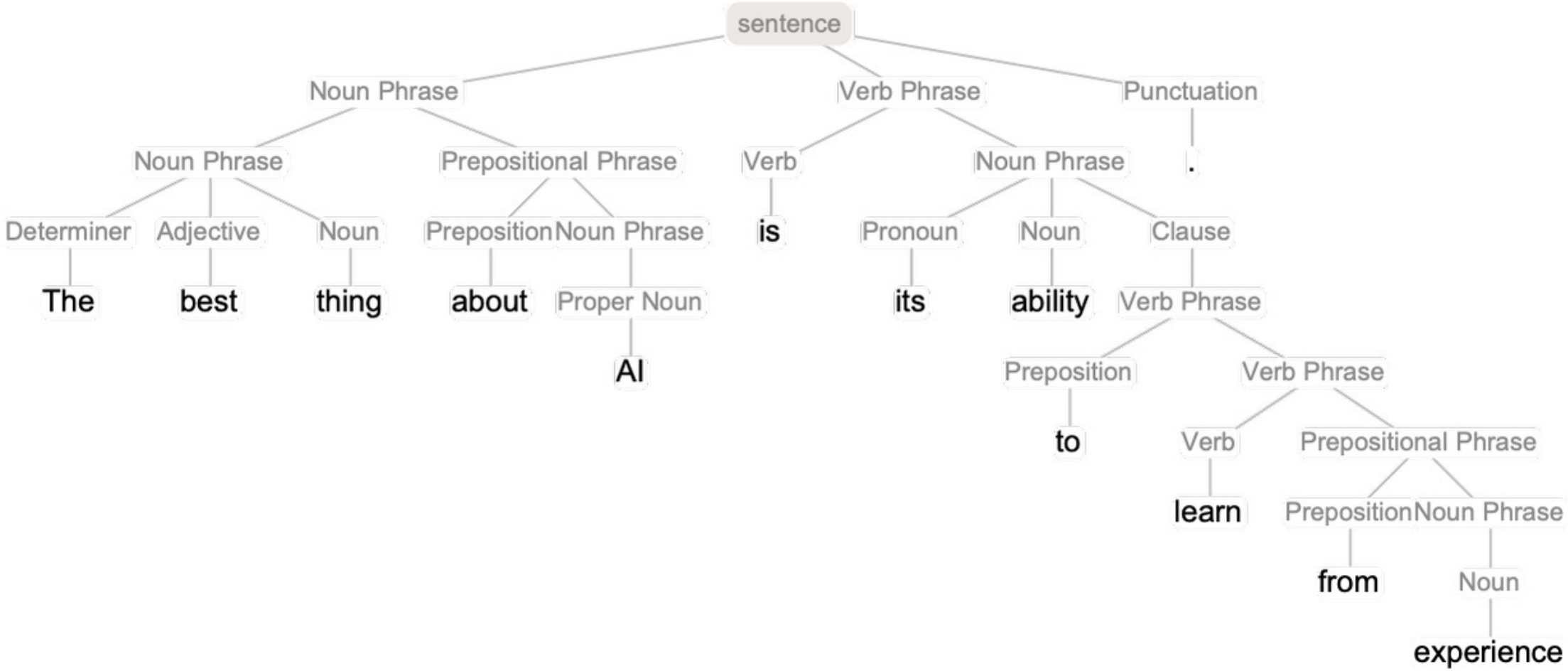
Andauernde Frage: Angesichts des vorhandenen Texts, was wäre die sinnvollste Ergänzung?

Das beste an KI ist die Fähigkeit, zu

lernen	4,5 %
vorherzusagen	3,5 %
machen	3,2 %
verstehen	3,1 %
tun	2,9 %

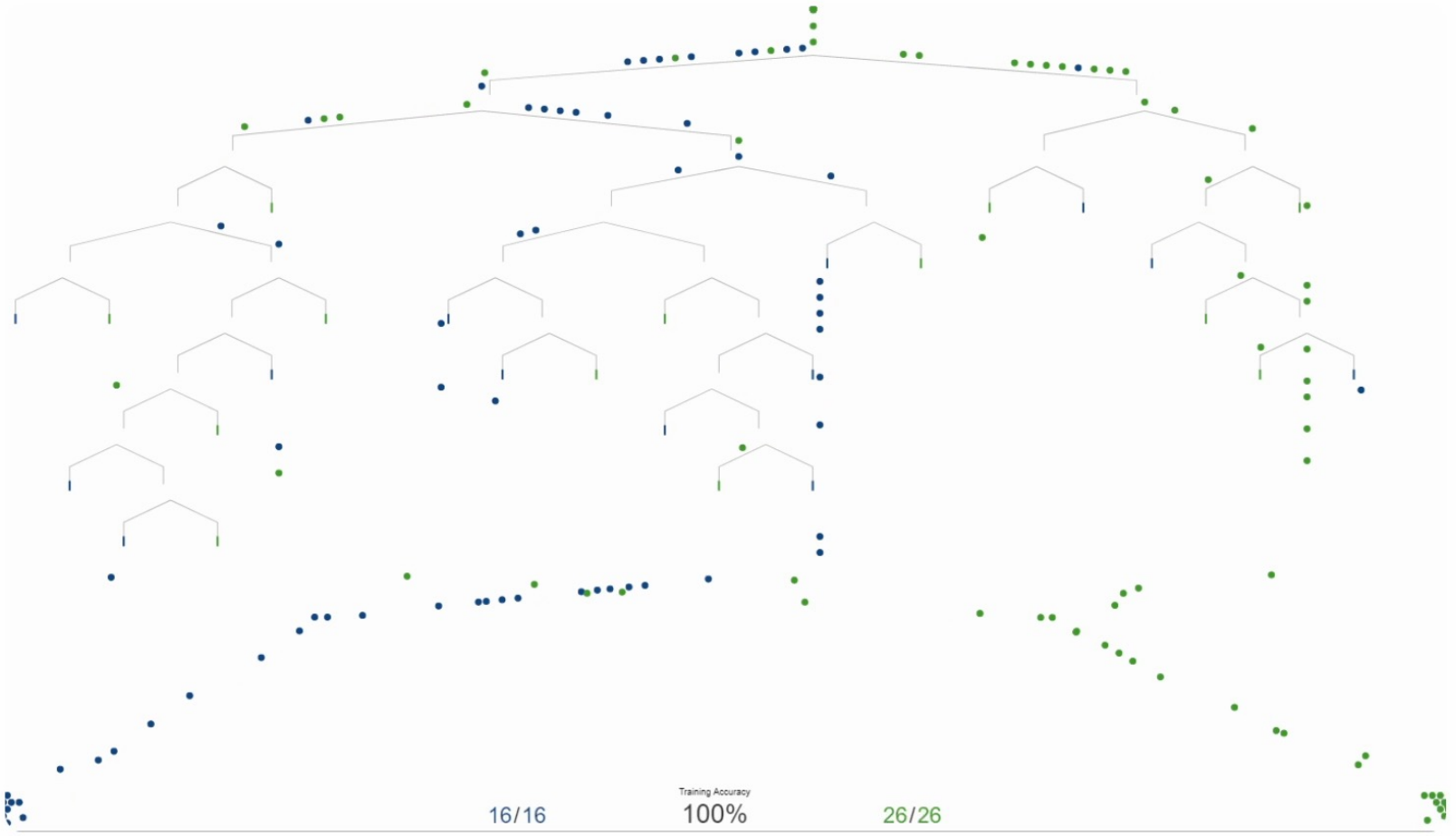
Stephen Wolfram, 2023

Wie funktioniert ChatGPT?



Stephen Wolfram, 2023

Machine Learning Beispiel



Datarevenue/Markus Schmitt, 2022

R2D3, 2017