

AI in Research –

Introduction and Exercises

Rachel Ellis, Dr. Manfred Nölte

State and University Library Bremen (SuUB)



Staats- und
Universitätsbibliothek
Bremen



<https://github.com/mnoelte/AI-2025>

Survey 1 -- Your AI experience

Anonymous • 4 questions

Language: English

1. What is your level of AI experience?

☐ No experience

☐ Beginner

☐ Intermediate

☐ Advanced

2. Have you already paid for AI services?

☐ Yes

☐ No

3. How many of these nine terms do you know well?

COMMON TERMS: Multimodal AI, Prompt, System Prompt

MORE TERMS: Transformer, Token, Word Embedding

TECHNICAL TERMS: Fine-tuning, Inference, RAG (Retrieval Augmented Generation)

☐ 1 - 3

☐ 4 - 6

☐ 7 - 9

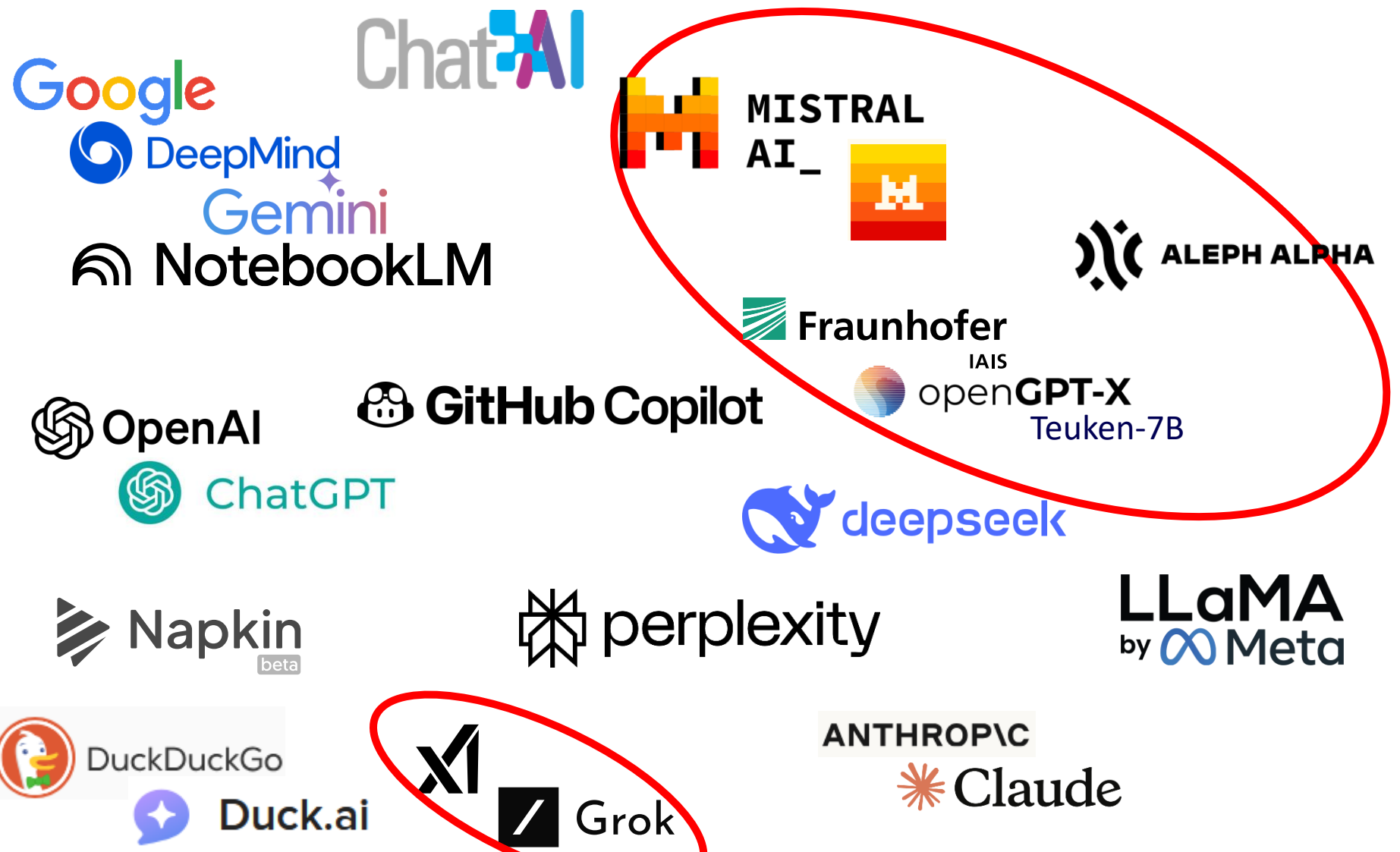
What are your plans to use AI?

https://uni-bremen.zoom-x.de/survey/Je8KkdKBF9l3-F4vmsb_BMvlok_47DfWGP1tQRUtHEZ0_uQDI2w.lblz84ujudl-DRDW/view?id=diSmX5BBSC2g9bJZeSVIYQ#/sharePreview

- What is your level of AI experience so far?
- What is your main interest in Artificial Intelligence?



Introduction – AI Models (Companies)



Introduction – Overview II

Leaderboards – List of Ranked AI models using Benchmarks

- Hugging Face (<https://huggingface.co/>)
 - European LLM Leaderboard
<https://huggingface.co/spaces/openGPT-X/european-llm-leaderboard>
 - Open LLM Leaderboard
https://huggingface.co/spaces/open-llm-leaderboard/open_llm_leaderboard#/
- LLM Arena
 - <https://lmarena.ai/>
- Vellum.ai
 - <https://www.vellum.ai/llm-leaderboard>
Good: cost per million tokens, context window size
- (not a leaderborad) DeepSeek
 - <https://www.deepseek.com/>