

Using LLMs conversational agents to produce teaching
and research materials

Demo Session

Dr Habib B.A. SIDI

Outlines

- × Quick context about LLMs and Conversational agents
- × Leveraging AI to produce research materials.
 - × LLMs powered papers searches and summary
 - × AI powered multi-task platform for Education
- × Leveraging AI in education and teaching
 - × Using ChatGPT to generate an interactive presentation
- × Usage of a Quiz production tool
- × Try it yourself

Are you a fan of social networks ?



Economist | Researcher
7 mois • Modifié •

Are you a Ph.D student / Researcher? Here are some AI tools that you can use at various stages of your research:

☑ Research Planning

GanttPRO A research planning tool to create a timeline, tasks, follow progress and deadlines.

<https://ganttpro.com/>

☑ Finding & Synthesizing Literature

Semantic Scholar:

Get access to 200 million research papers, discover links between topics, get recommendations based on recent searches and generate summaries.

<https://lnkd.in/dKkGMeXw>

Scholarcy

AI powered article summarizer which identifies key info like participants, data analysis, main findings and limitations.

https://lnkd.in/d-n_yEHn

Paper Digest

Creates 3-minute summaries of research papers by extracting key ideas and sentences.

<https://lnkd.in/d7TsH96f>

Content Mine

Enables you to find, download, analyze, and extract knowledge from academic papers.

<https://lnkd.in/dQ73C2Af>

Elink.io

Enables you to save the content from around the web: articles, videos, cloud files, social media posts and share them with peers.

<https://elink.io/>

<https://www.linkedin.com/embed/feed/update/urn:li:share:7051519413807718400>

LLMs and Conversational agents

Capturing long term dependencies.

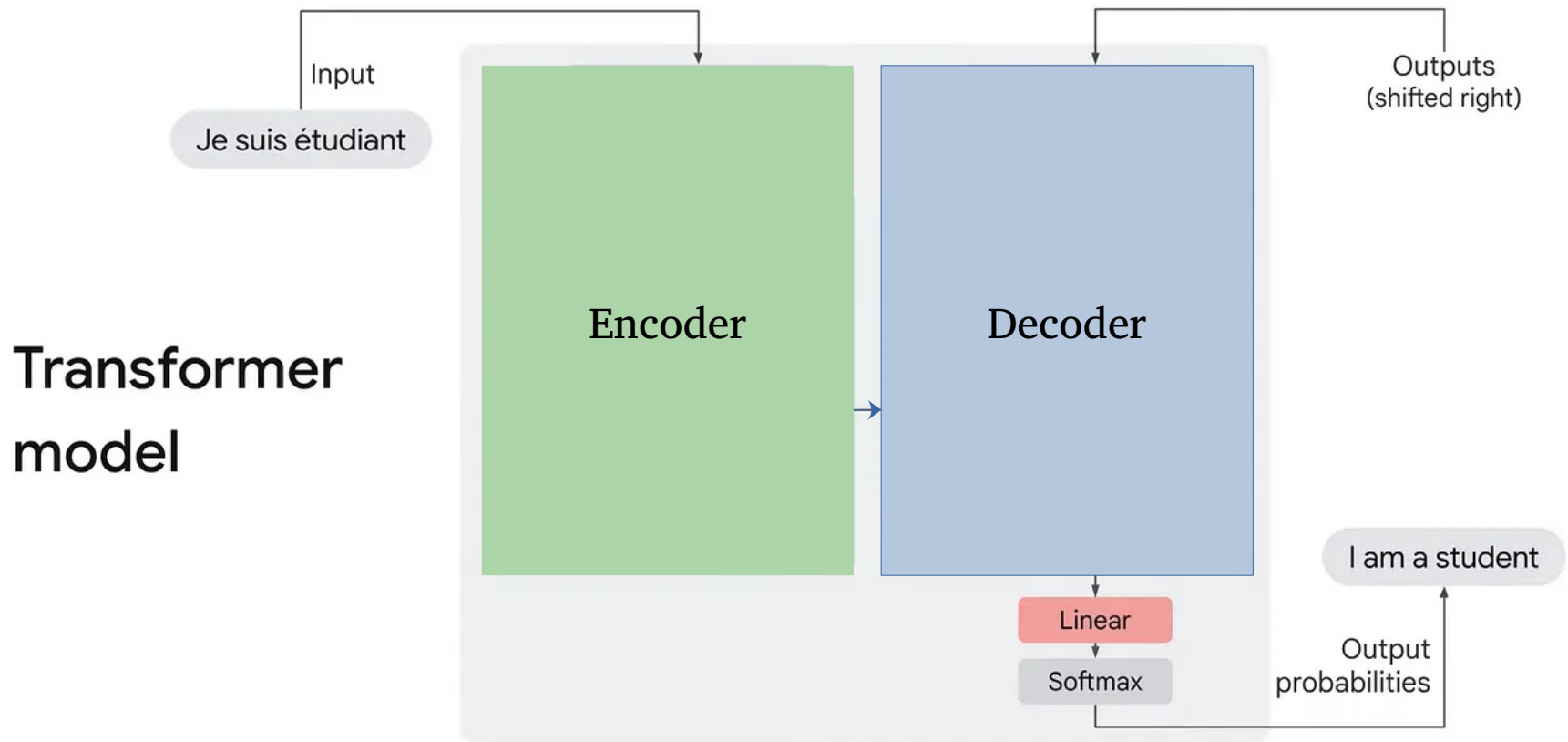
Alice** was born in Abuja, Nigeria, an English-speaking country, in 1989 during the study years of her parents, Djomo and Nicole. She then lived and grew up in the area of Ekpe city after the family had moved to settle down in Benin. Her parents always ensured she knew about her culture and tradition and was open to others as well. However, because they all left Nigeria while she was still a toddler, she didn't learn English and **can only speak French today.

Context aware encoding

Bank encoding in « River bank » vs « Bank robber »

Gradient fading, high computational cost, constraining underlying assumptions etc.

LLMs - Transformer Generic architecture

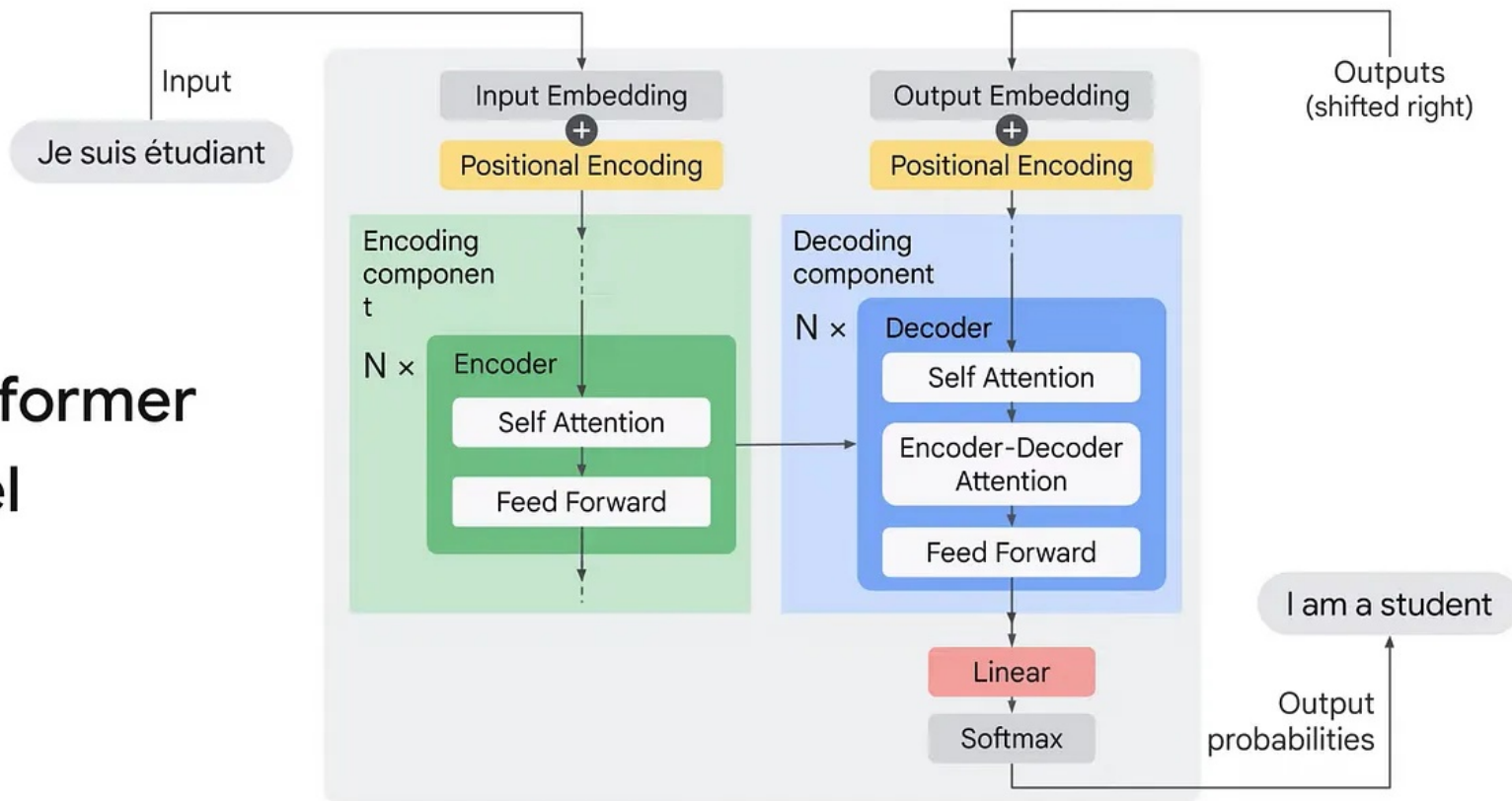


Adapted from : Transformer models and BERT model: Overview — YouTube



LLMs - Transformer Model

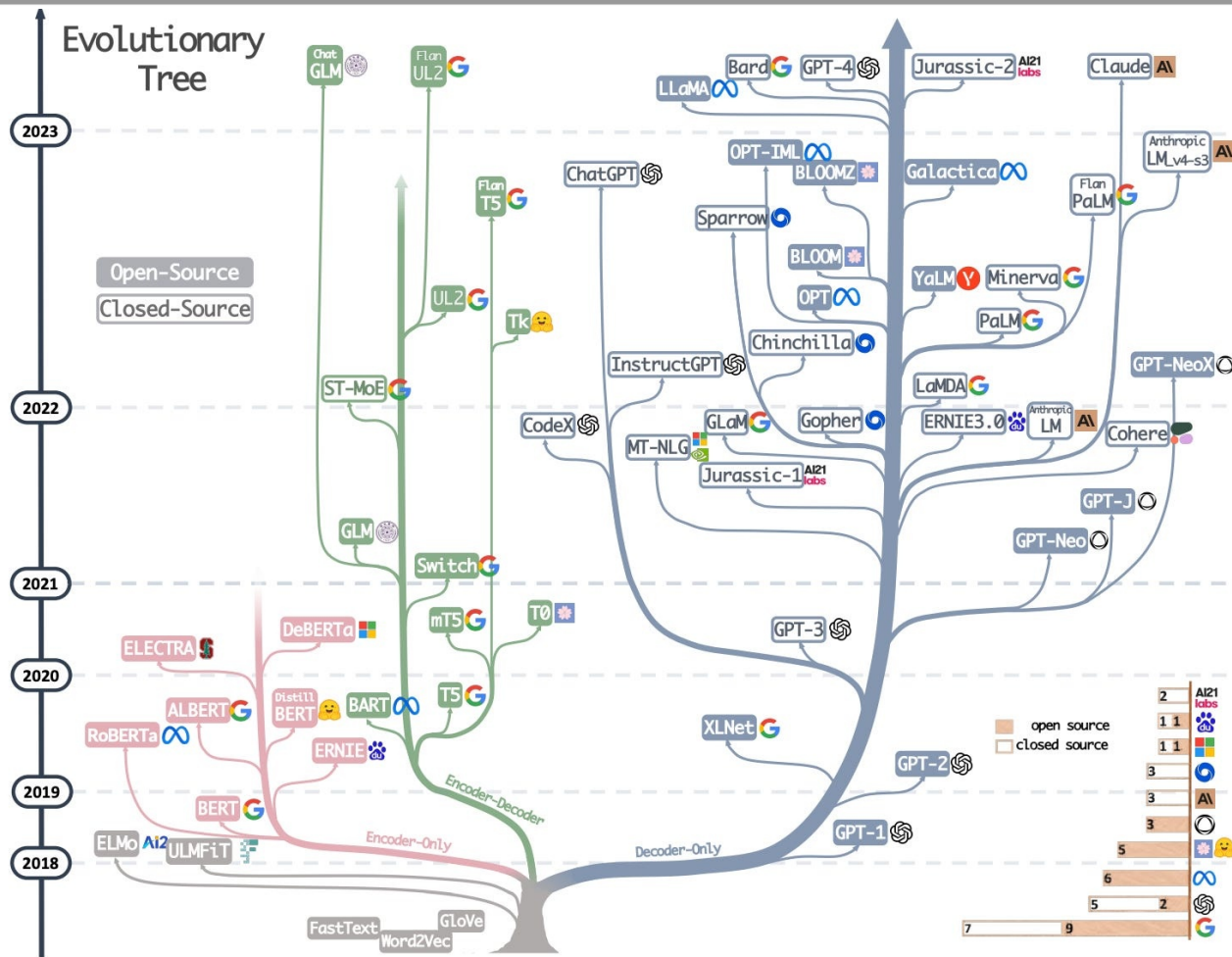
Transformer model



Transformer models and BERT model: Overview — YouTube



LLMs – A variety of implementations

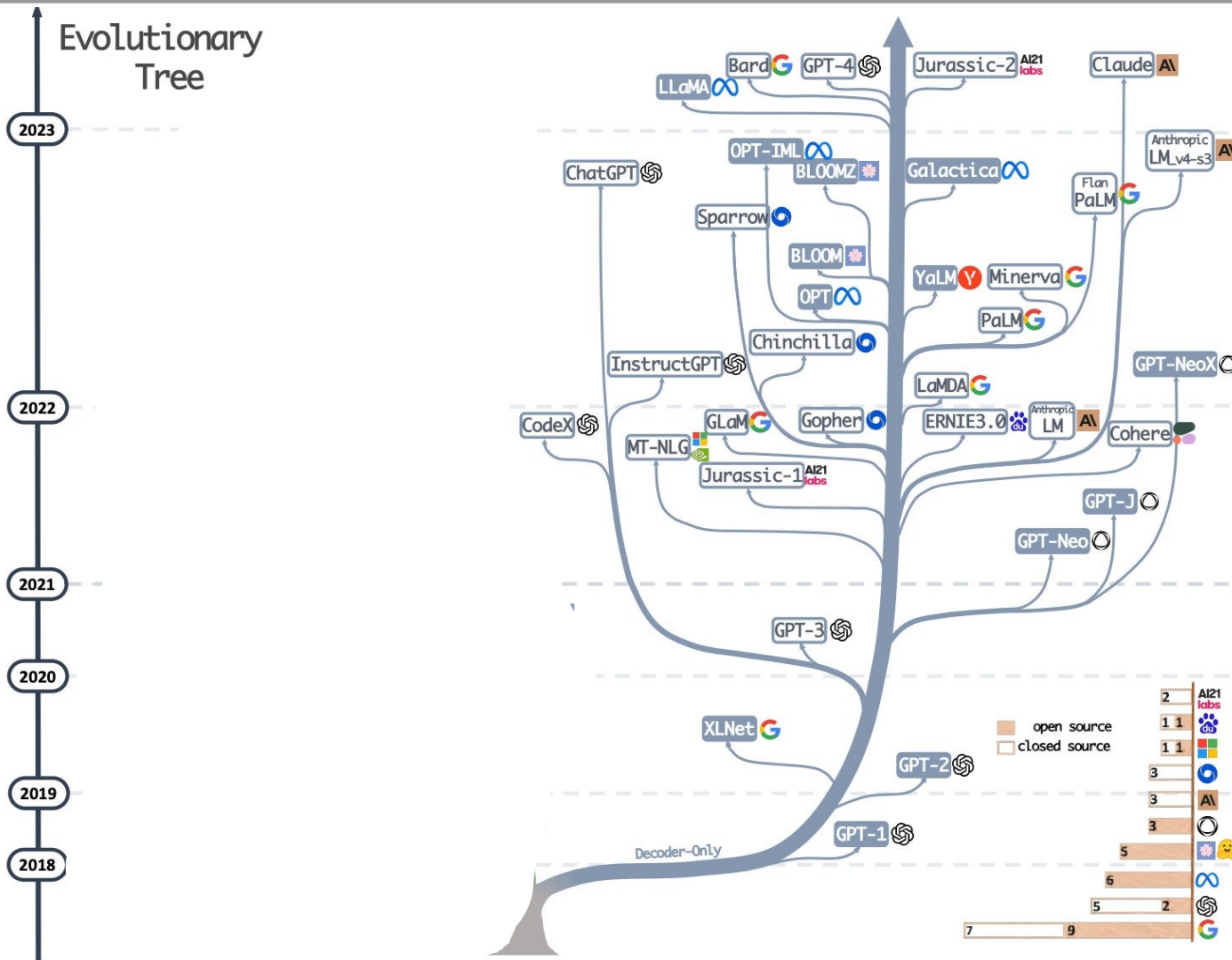


Is open source the way forward ?

Fig. 1. The evolutionary tree of modern LLMs traces the development of language models in recent years and highlights some of the most well-known models. Models on the same branch have closer relationships. Transformer-based models are shown in non-grey colors: decoder-only models in the blue branch, encoder-only models in the pink branch, and encoder-decoder models in the green branch. The vertical position of the models on the timeline represents their release dates. Open-source models are represented by solid squares, while closed-source models are represented by hollow ones. The stacked bar plot in the bottom right corner shows the number of models from various companies and institutions.

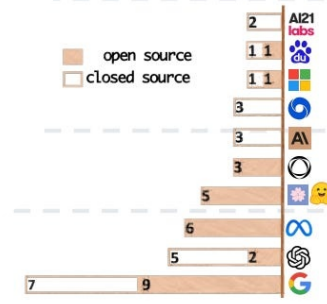
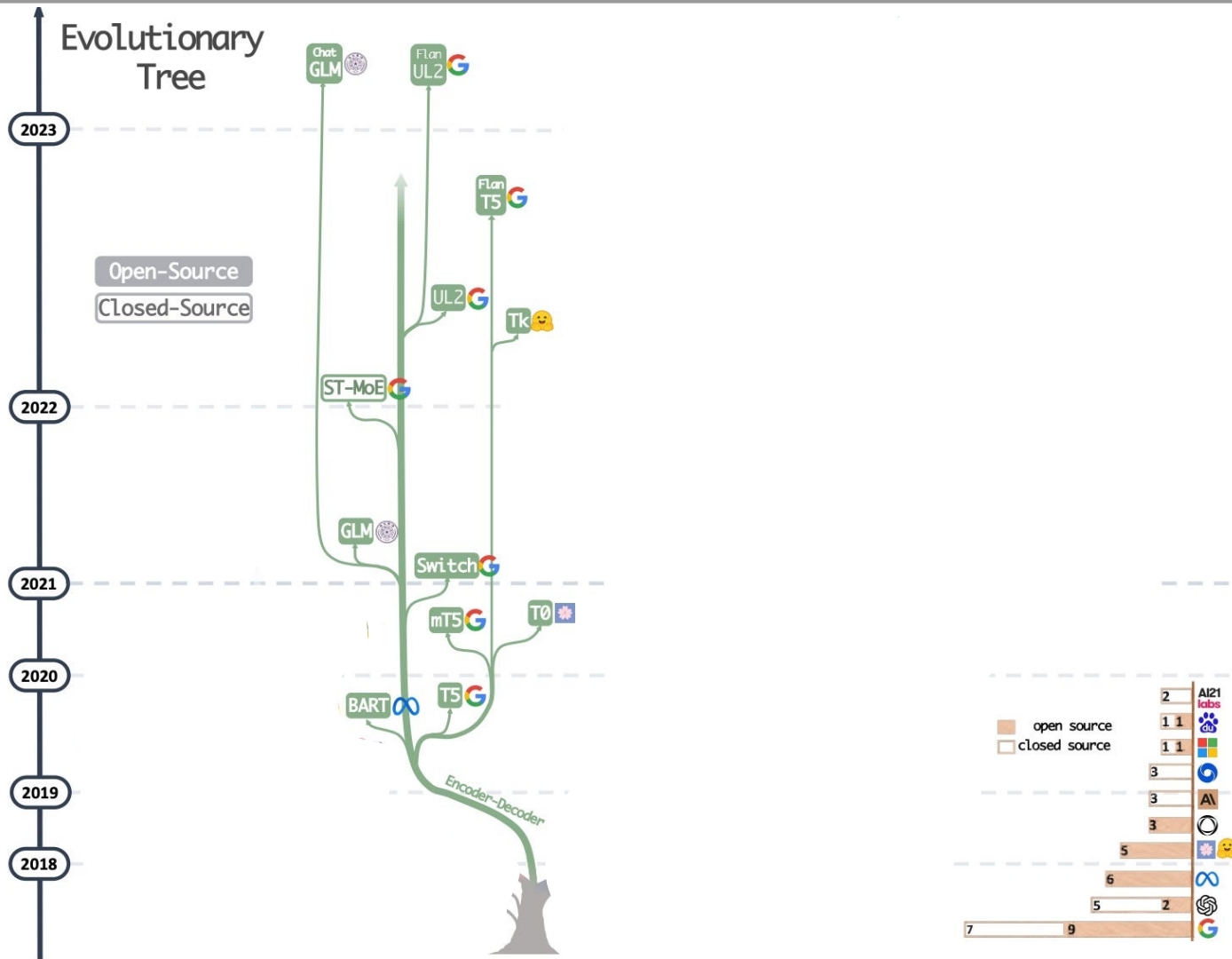
Source : <https://www.interconnects.ai/p/llm-development-paths>

LLMs – Not a single implementation



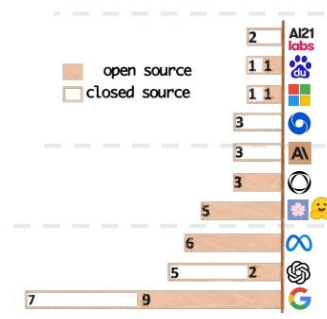
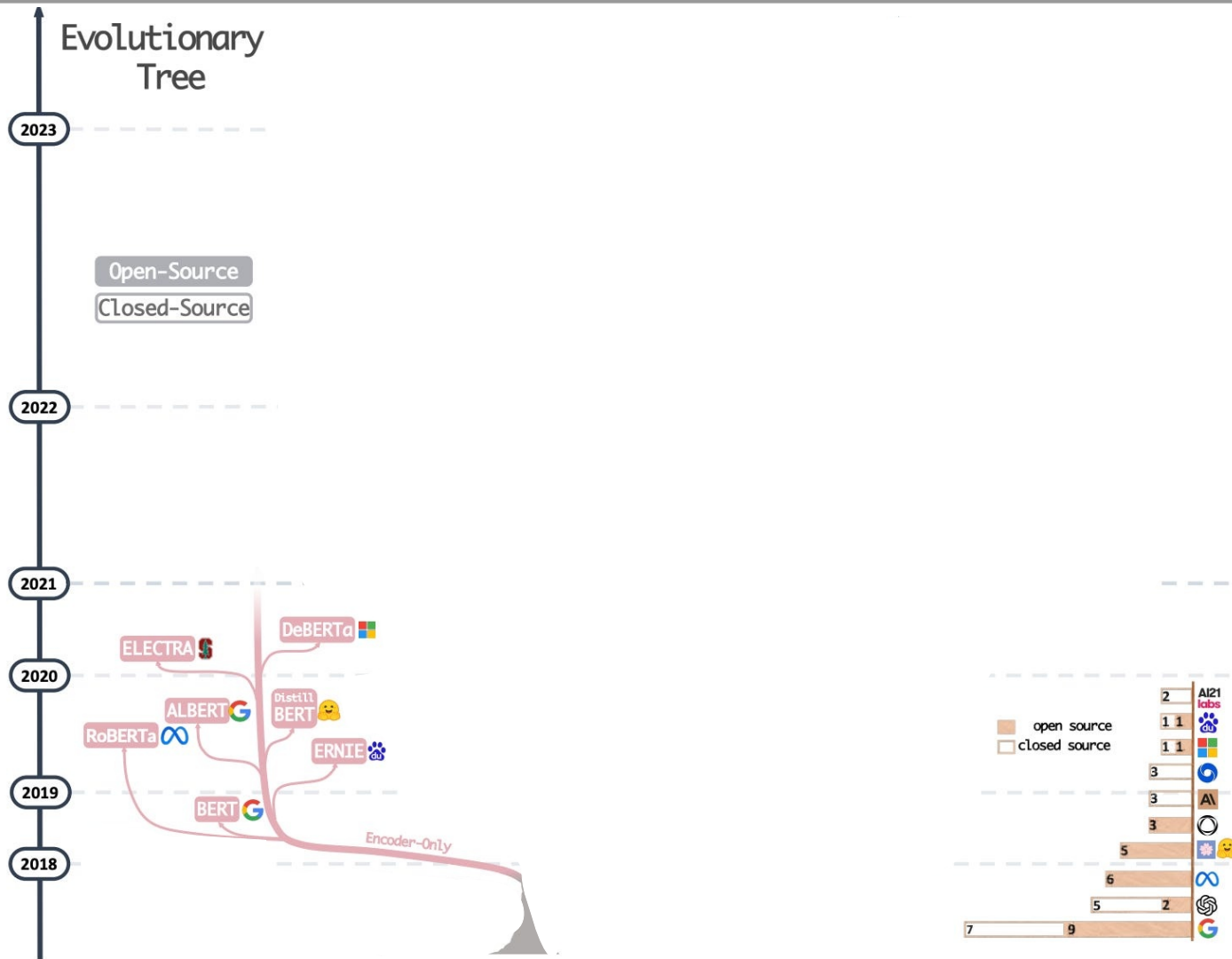
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LLMs – Not a single implementation



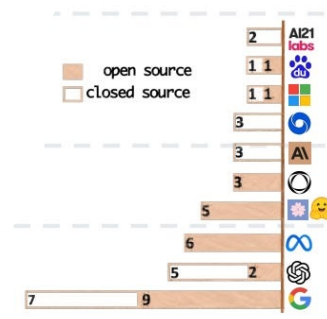
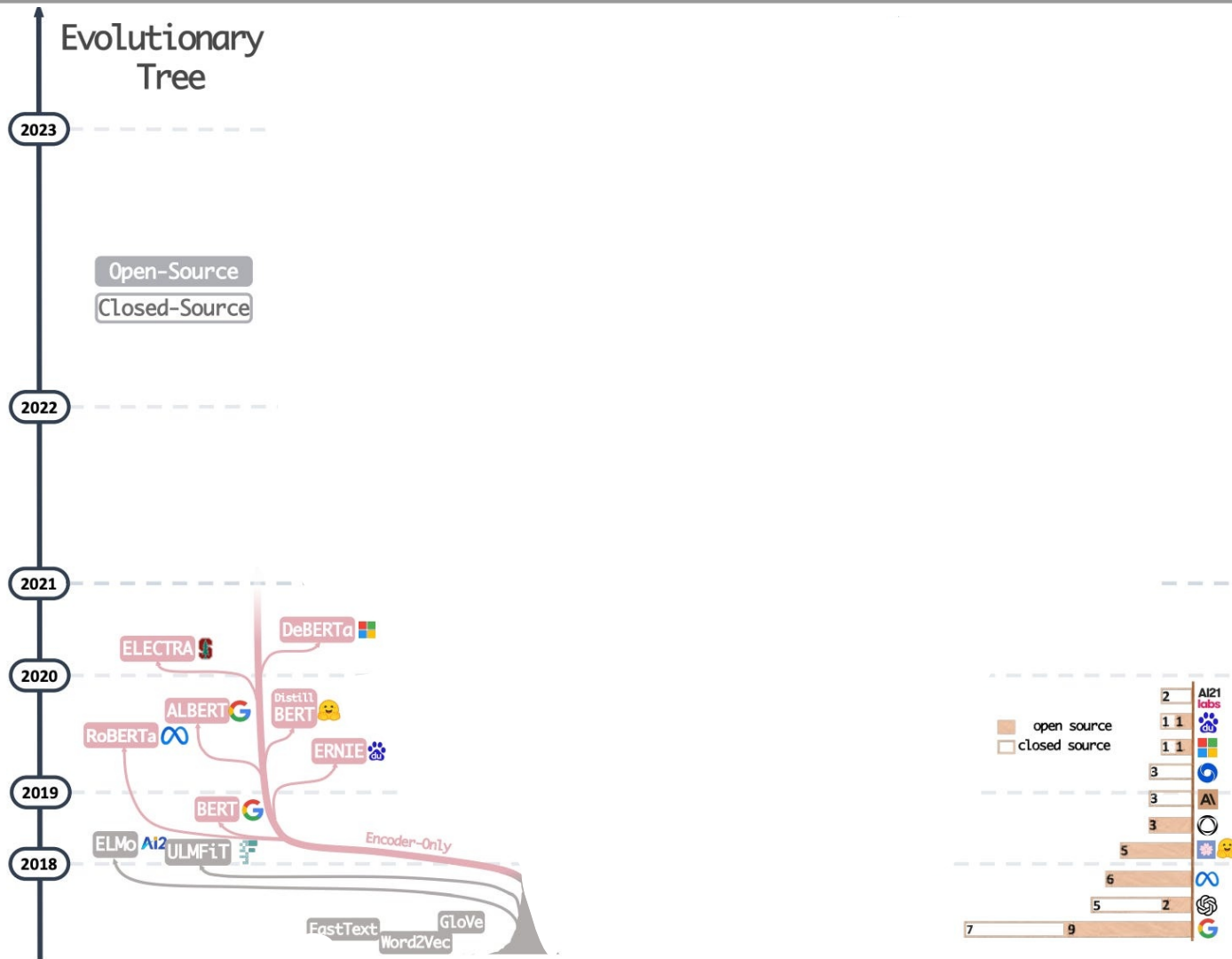
Source : <https://www.interconnects.ai/p/llm-development-paths>

LLMs – Not a single implementation



Source : <https://www.interconnects.ai/p/llm-development-paths>

LLMs – Not a single implementation



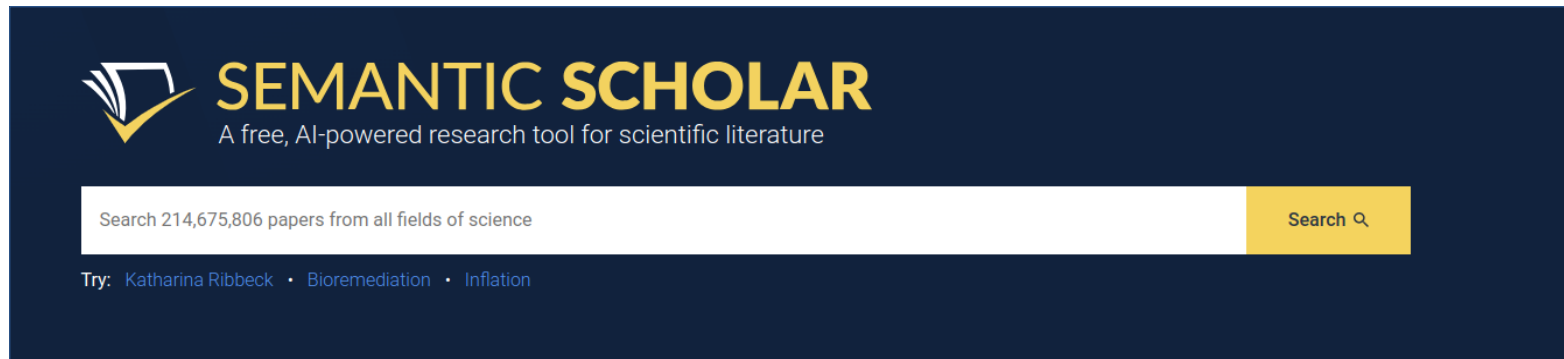
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LLMs – Effective papers searching

1

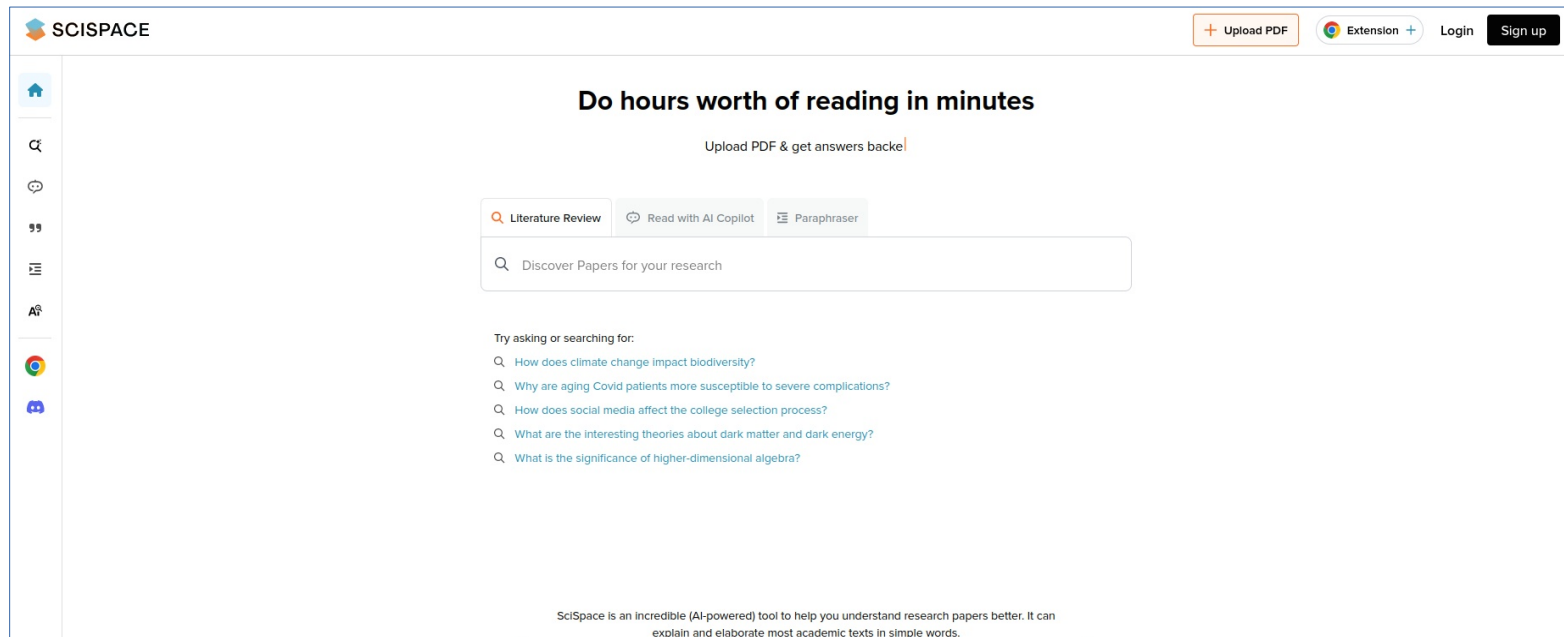


SEMANTIC SCHOLAR
A free, AI-powered research tool for scientific literature

Search 214,675,806 papers from all fields of science Search

Try: [Katharina Ribbeck](#) • [Bioremediation](#) • [Inflation](#)

2



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Do hours worth of reading in minutes

Upload PDF & get answers back

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Discover Papers for your research

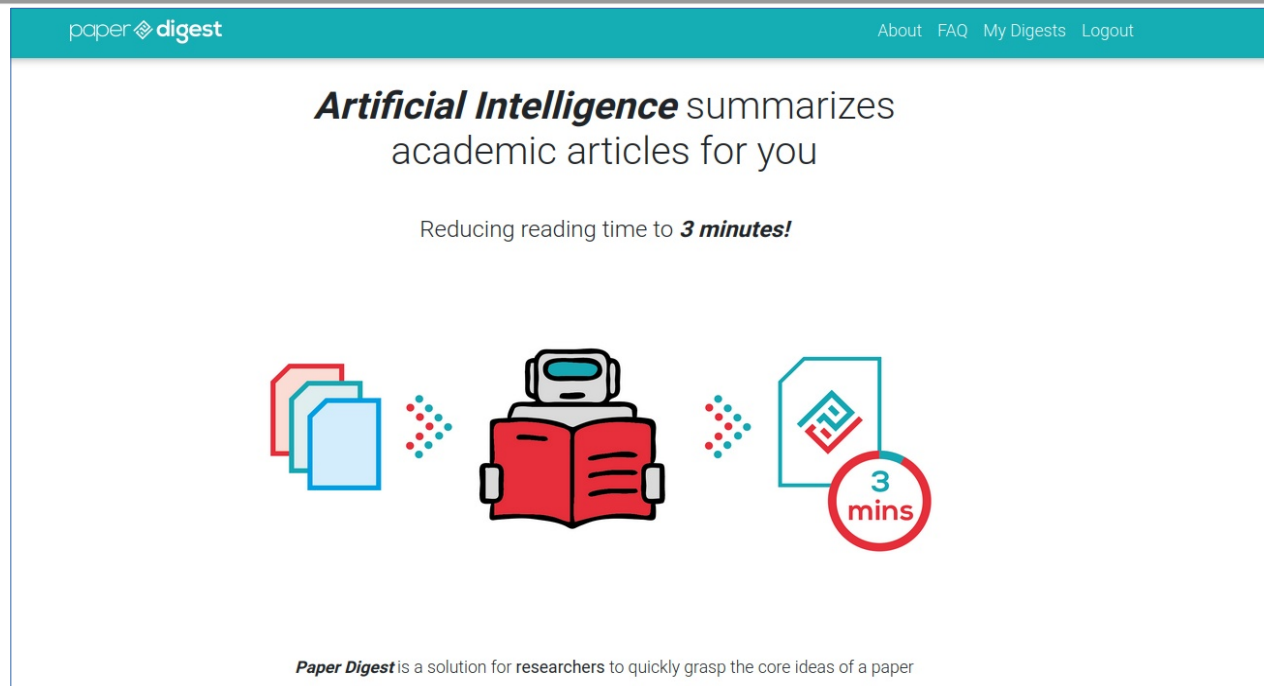
Try asking or searching for:

- How does climate change impact biodiversity?
- Why are aging Covid patients more susceptible to severe complications?
- How does social media affect the college selection process?
- What are the interesting theories about dark matter and dark energy?
- What is the significance of higher-dimensional algebra?

SciSpace is an incredible (AI-powered) tool to help you understand research papers better. It can explain and elaborate most academic texts in simple words.

LLMs – Effective papers searching

3



paper digest

About FAQ My Digests Logout

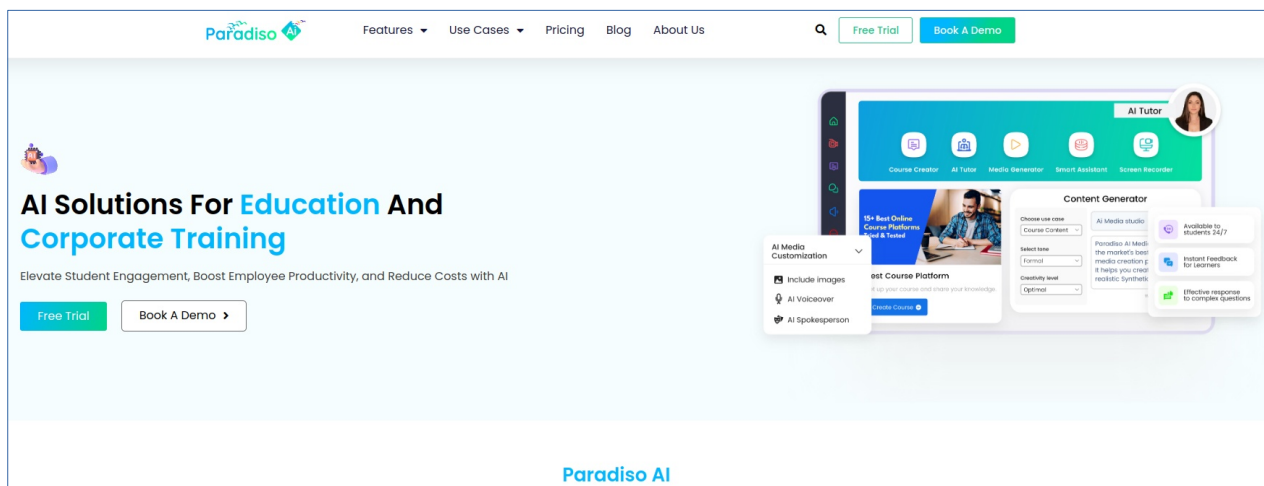
Artificial Intelligence summarizes academic articles for you

Reducing reading time to **3 minutes!**

3 mins

Paper Digest is a solution for researchers to quickly grasp the core ideas of a paper

4



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Elevate Student Engagement, Boost Employee Productivity, and Reduce Costs with AI

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Paradiso AI

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LLMs – A bunch of alternatives to ChatGPT

Customized Learning

 **KNEWTON**

Reach out for a demo & pricing for teachers and students

 **wordtune**

Free with 10 rewrites & 3 AI prompts a day

 **WolframAlpha**

Free basic account

 **HISTORY HELLO**

Free 20 messages

 **Parlay Genie**

Free to use

Quickly Create Presentations

 **presentations.AI**

Free for a limited time

 **decktopus**

Free with

Create New Lesson Content



Free, upgr

 **Jasper**

7-day free trial

Streamline Grading Processes

 **gradescope**

Free trial

 **turnitin™**

Free trial

 **SmartGrade**

Free trial

Generate Interesting Images

 **Bing**  **Canva**  **runway**

Free to use


Free for teachers

Free for 125 credits

 **PICTO**

Free trial for 3 video projects

A forever free version with limits on the number of outputs

 **speechify**

15-minute of audio dubbing

 **anyword**

Free for 7 days or 2,500 credits

LLMs – ChatGPT for a Presentation

chrome web store

Search: aiprm for chatgpt

« Home

- Extensions
- Themes

Ratings


- ★★★★★
- ★★★★★ & up
- ★★★★★ & up
- ★★★★★ & up

Privacy Policy


Terms of Service Updated

About Chrome Web Store


Extensions



ChatGenie
chatgpt-chrome.com
Unlock the power of conversation with ChatGenie - the ultimate browser extension for ChatGPT.
★★★★★ 118 Productivity

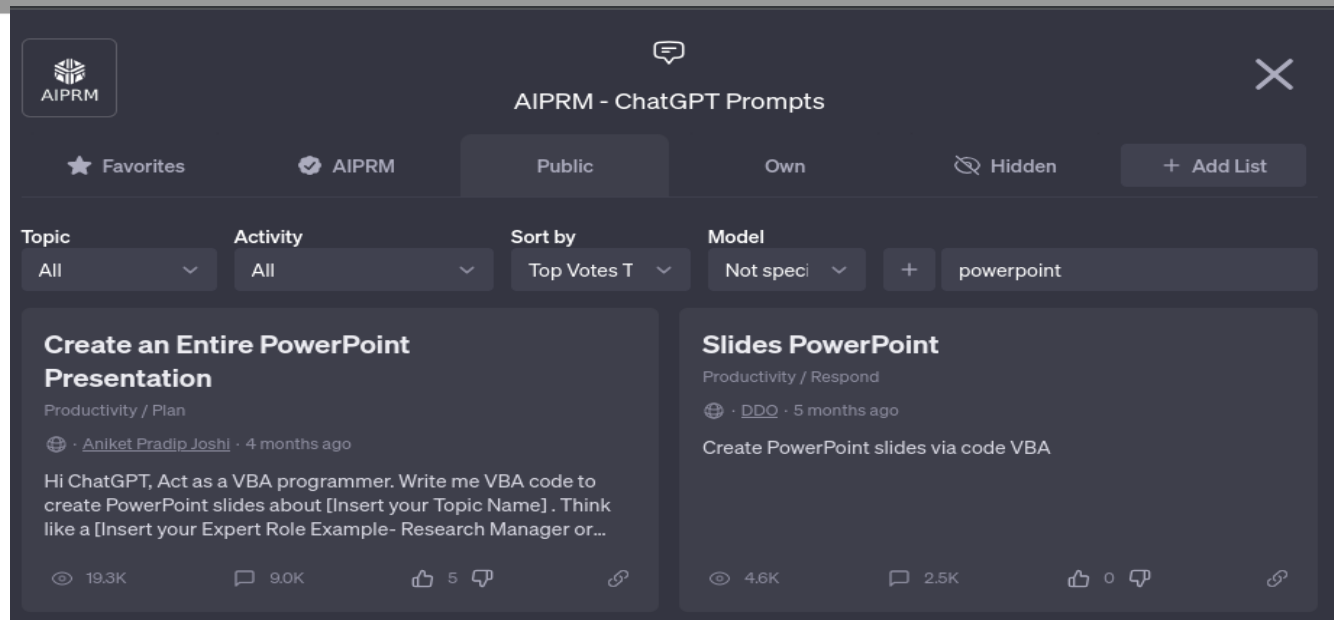


AIPRM for ChatGPT
www.aiprm.com Featured
AIPRM adds a list of curated prompt templates for SEO, SaaS and more.
★★★★★ 1,802 Productivity



Superpowers for Chatgpt
The ultimate browser extension for accessing Chatgpt.
★★★★★ 23 Productivity

LLMs – ChatGPT for a Presentation



Prompt 1

You are an expert on LLM applications. Write an outline for a powerpoint presentation covering LLM applications in education. Make it 10 slides.

Prompt 2

Expand on each of the topics you provided earlier. You can consider elaborating on the key ideas, offering supporting examples and explaining any details that you think would enhance the audience's understanding on the topic.

Prompt 3

Expand the ideas in bullet format and with summary detail

Prompt 4

Suggest any images to be included in the slides to enhance the visual appeal. Provide also the Bing image creator prompts for the images you suggested.

[Prompts source](#): 3 Ways to Create PowerPoint Presentations with ChatGPT [for Teachers] - Youtube

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A reading comprehension exercise generation system

The image shows a screenshot of the TopAI.tools website. The main header is pink with a navigation menu containing 'Features' and 'Pricing'. A 'Log In' button is also visible. The main content area has a dark blue background with a large orange brain icon containing the letters 'AI'. Below the icon, the text reads 'Free AI Powered Q Generator' and 'AI Question Generator'. A sub-header lists question types: 'Multiple Choice | True-False | Open Ended | Calculation | Fill in the Blanks | Matching Questions'. A pink banner on the left side of the main content area states '+1,000,000 Generated questions last...'. At the bottom of the main content area, there are buttons for 'SUBMIT TOOL' and 'SIGN IN'. Below the main content area, there is a section titled 'Discover AI tools with AI' with a sub-header 'Describe what you want to accomplish in a few words and we will suggest some tools that could help'. A search bar with the placeholder text 'I Want To...' and a green search button is located at the bottom of this section.

TopAI.tools

Free AI Powered Q Generator

AI Question Generator

Multiple Choice | True-False | Open Ended | Calculation | Fill in the Blanks | Matching Questions

+1,000,000 Generated questions last...

DISCOVER AI TOOLS WITH AI

Describe what you want to accomplish in a few words and we will suggest some tools that could help

I Want To...

A reading comprehension exercise generation system

Quiz Wizard

Testimonials ▾

Sign up

EN ▾

Discover the power of AI

Generate MCQs and Flashcards in seconds. Save time and provide personalized training content to your students.
On any topic.

Sign up

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Practice

Project 1- Generate an AI powered video of your favorite course (using /e.g. pictory).

Project 2- Generate an interactive presentation on Attention Mechanism (using AIPRM or Decktopus).

Project 3- Generate an assessment deck with flash cards (Using /e.g. Quiz Wizard)

Project 4- Generate the main takeaways from the seminal paper « Attention is all you need » By Google. (Using /e.g. scispace).

End.
Thank you !

Applause to yourself for holding on to here !!