

Al Tools for Research

Timo Mandler | Toulouse | 31.10.2024

Al tools for different research tasks



- Exploring the literature
- Collecting & analyzing data
- Writing manuscripts
- Creating applications
 - Some of the presented tools do not use "AI" in the strict sense but are still included because they represent novel research tools
 - Many tools use the same underlying model, i.e., powered by GPT-4 or Gemini 1.5, which you could also access directly
 - Pricing information does not consider discounts (e.g., annual billing)



Exploring the literature using Al tools

Literature exploration: Online tools



















^{\$} Premium/pro versions range from 7.30 to 16.00 USD/month, with annual billing discounts.







Origin paper

Why consumers do (not) like global brands: The role of...

Petra Riefler

2012

Cognitive and Affective Reactions of U.S. Consumers to Global...

C. Dimofte, J. Johansson, I.... 2008

Branding in a global marketplace: The mediating effects of quality...

Yuliya Strizhakova, Robin A.... 2011

Drivers of Local Relative to Global Brand Purchases: A Contingency...

Yuliya Strizhakova, Robin A.... 2015

The Effects of Perceived Brand Globalness and Perceived Brand...

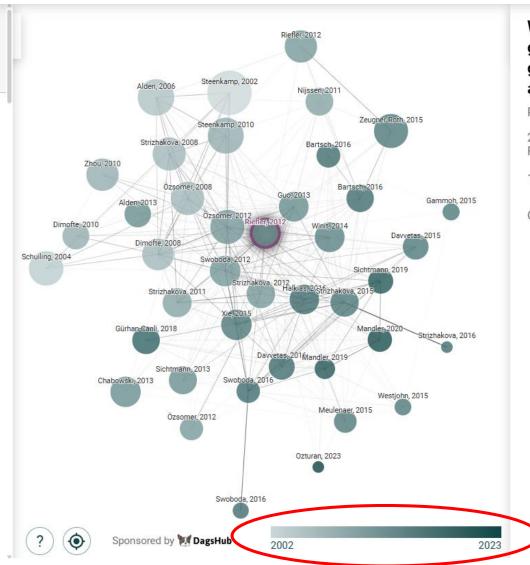
Bernhard Swoboda, K.... 2012

The Interplay between Global and Local Brands: A Closer Look at...

Ayşegül Özsomer 2012

Living in a Global World: Influence of Consumer Global Orientation o...

Xiaoling Guo 201



Why consumers do (not) like global brands: The role of globalization attitude, GCO and global brand origin

Petra Riefler

2012, International Journal of Research in Marketing

107 Citations

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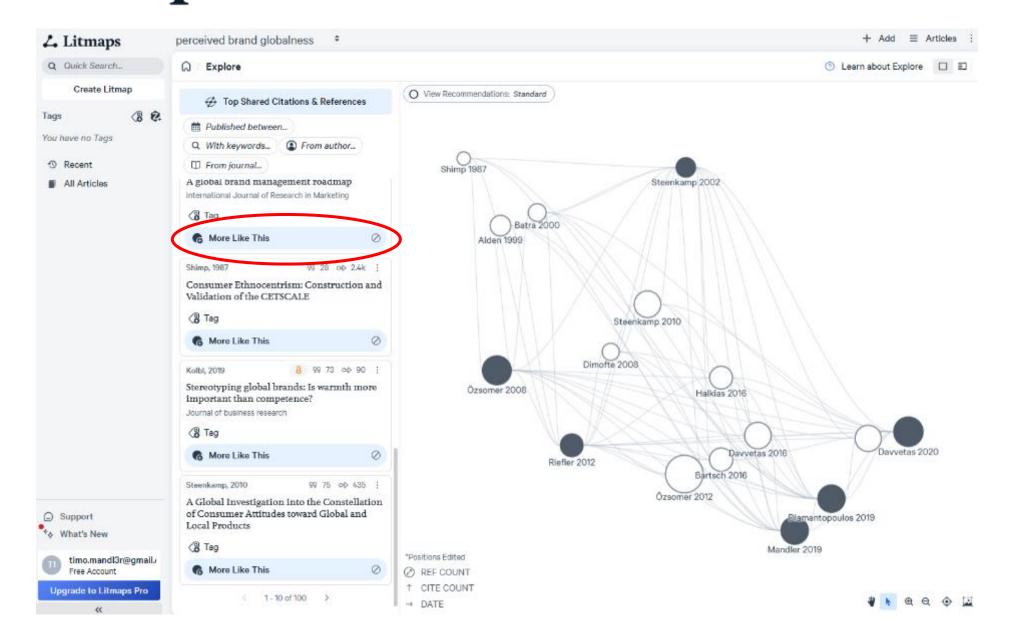




L Litmaps

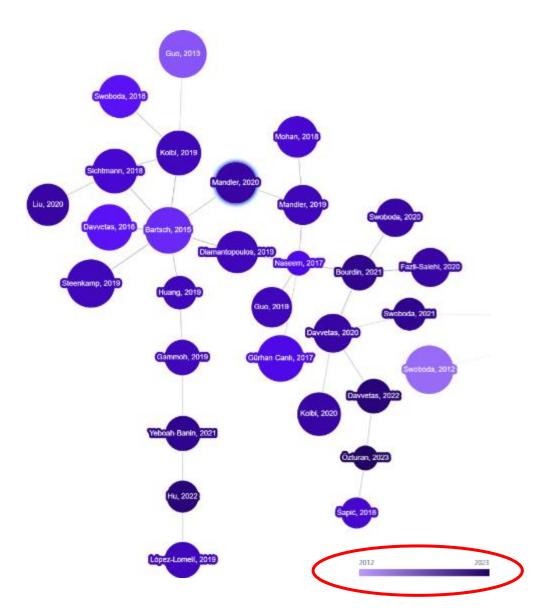
https://app.litmaps.com/











Similar Papers

These papers cite the same papers as your selected paper. They tend to bias towards newer papers in the field.

		similarity	num_cited_by	published_year
0	Beyond reach: an extended model of global brand effects Timo Mandler International Marketing Review	9.184031	26	2019
0	On the Interplay Between Consumer Dispositions and Perceived Brand Globalness: Alternative Theoretical Perspectives and Empirical Assessment Adamantios Diamantopoulos, Martin Eisend Journal of International Marketing	5.866436	41	2019
0	The relational value of perceived brand globalness and localness Christina Sichtmann, Adamantios Diamantopoulos Journal of Business Research	5.662205	85	2018
0	Perceived Brand Globalness/Localness: A Systematic Review of the Literature and Directions for Further Research Hao Liu, E Tzemou Journal of International Marketing	5.573338	48	2020
0	Consumers and Brands across the Globe: Research Synthesis and New Directions Zeynep Gürhan-Canlı, Ceren Hayran Journal of International Marketing	5.55939	126	2017
0	Xenocentrism, cosmopolitanism, and consumer behavior in emerging markets: important antecedents and consequences Emmanuel Ato Silva Quaye	5.42176	0	2020



https://estech.shinyapps.io/citationchaser/



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authors 🝦	year 🖣	title 🝦	source_title 🖣	volume 🖣	issue 🖣	start_page 🖣	end_page 🖣	doi
Westjohn, Stanford A.; Magnusson, Peter; Zhou, Joyce X.	2015	Does the Value of Global Brands Apply to Both Foreign and Domestic- Based Global Brands?	Advances in International Marketing	25		267	286	10.1108/s1474 797920140000
Zhou, Lianxi; Yang, Zhiyong; Hui, Michael K.	2009	Non-local or local brands? A multi-level investigation into confidence in brand origin identification and its strategic implications	Journal of the Academy of Marketing Science	38	2	202	218	10.1007/s1174

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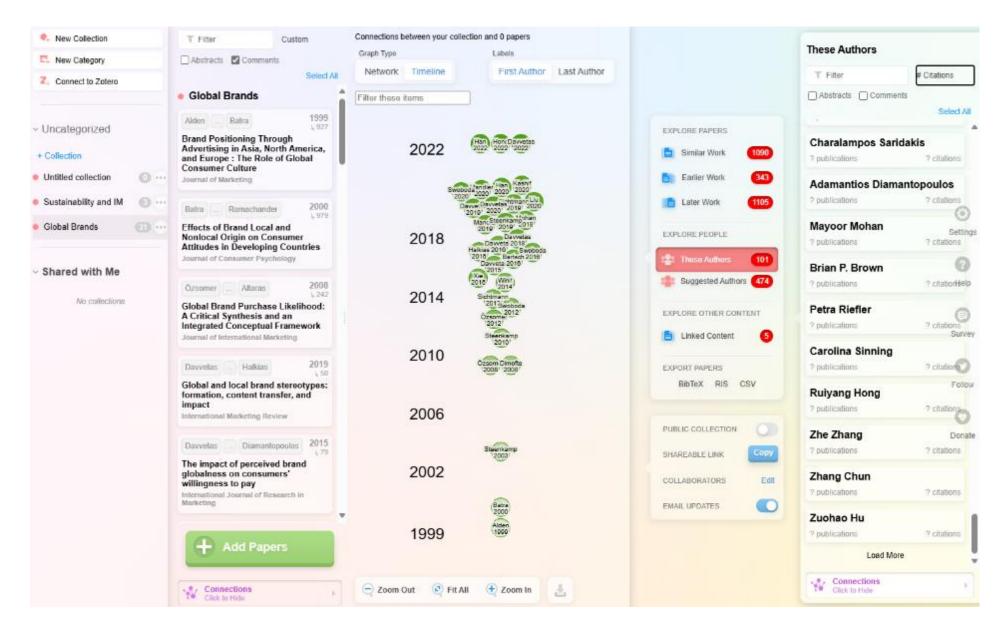
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authors $\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$	year 🖣	title \$	source_title 🖣	volume 🖣	issue 🖩	start_page 🖣	end_page 🖣	doi
Kashif, Muhammad; Udunuwara, Maduka	2023	Redefining brand globalness: an interpretive inquiry	Journal of Marketing Theory and Practice	32	3	362	377	10.10
Baršytė, Justina; Ruzeviciute, Ruta; Neciunskas, Paulius; Schlegelmilch, Bodo B.	2023	When "Global" Becomes a Challenge: The Role of Freshness in Food Brand Preference Formation	Journal of International Marketing	31	4	23	35	10.11
Swoboda, Bernhard; Sinning, Carolina	2021	Endorsement of Global Product Brands by Global Corporate Brands – A Consumer Perspective Across Nations	Management International Review	61	4	563	598	10.10



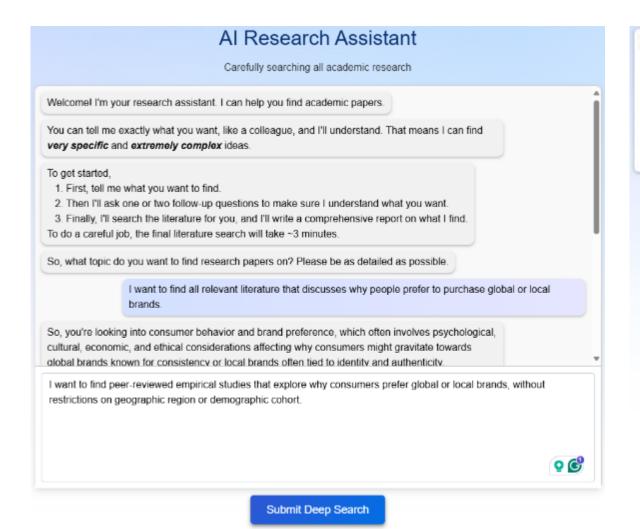


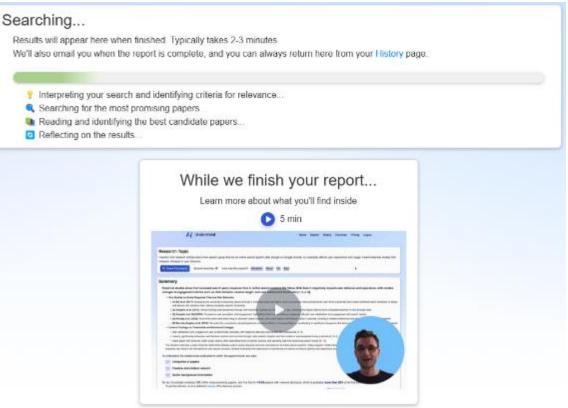






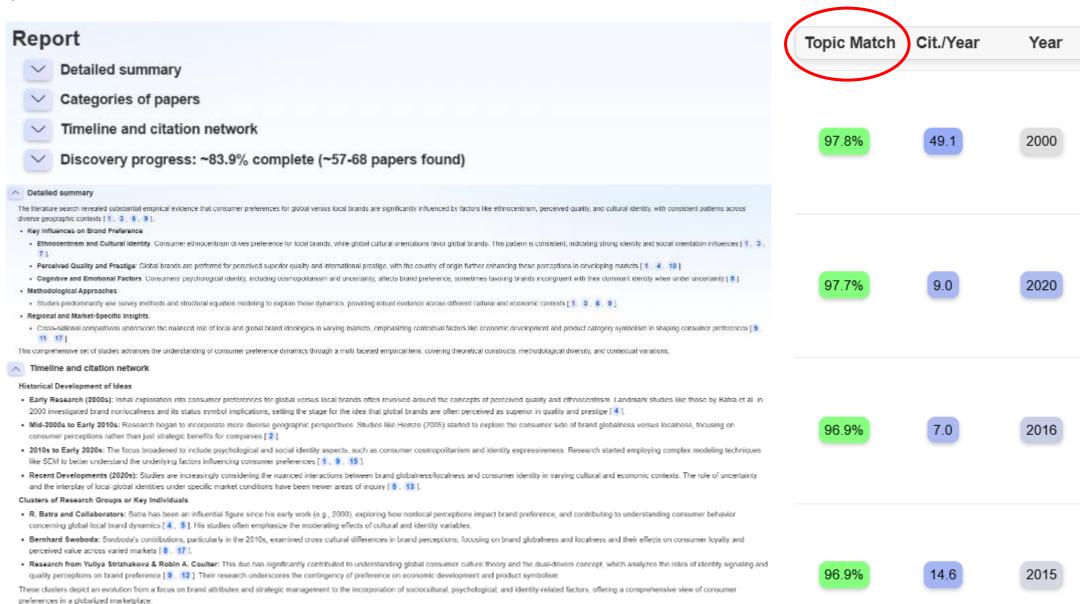






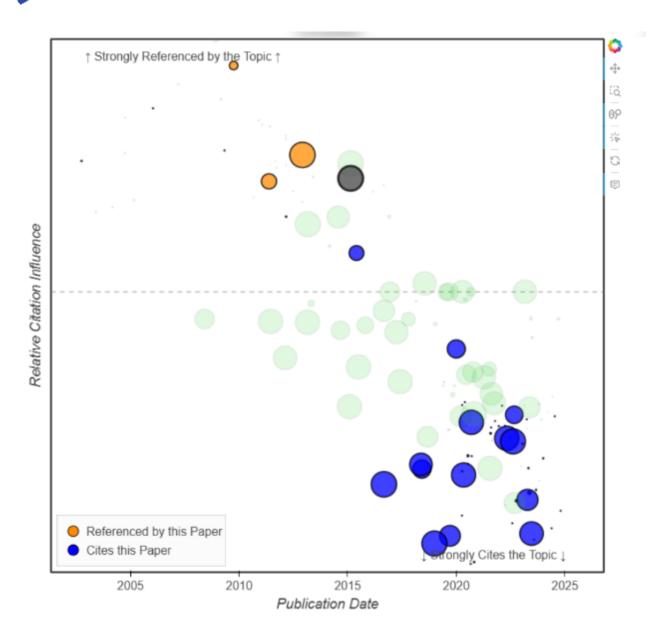






Undermind







Paper Details

An Extended Model of Preference Formation between Global and Local Brands: The Roles of Identity Expressiveness, Trust, and Affect

Authors: Yi Xie, R. Batra, Siqing Peng Journal: Journal of International Marketing

Date: 2015-02-19 Citations: 200

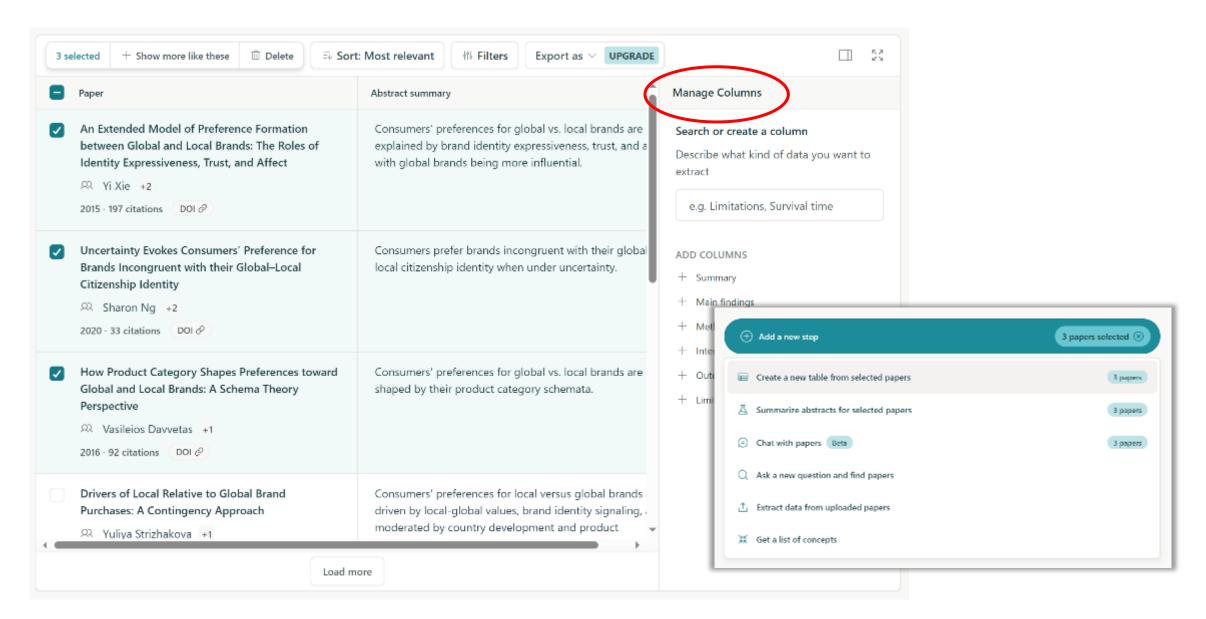
Network Scores:

Connectedness to the Topic (Size): 0.133 Importance as a Reference: 0.126 Importance as a Citing Article: 0.072

Abstract: The authors propose an augmented conceptual model explaining consumer preferences for global brands versus local brands in emerging markets and test the model using data from a Chinese consumer sample. The model adds high brand-identity expressiveness as well as high trust and positive affect toward these brands. The results support these additions and replicate previous findings that brand quality and prestige are important links between perceived brand globalness (PBG) and perceived brand localness (PBL) and favorable behavioral intentions. The most novel finding is that both PBG and PBL can enhance a brand's identity expressiveness. The results establish the mediating roles of these additional variables between PBG/PBL and behavioral intentions and also identify the incremental explanatory value of these additional mediators, which have been neglected in previous global branding research. Furthermore, PBG—which affects behavioral intentions through pathways of brand prestige, trust, and affect—is more influential than PBL, which operates mainly through brand identity expressiveness.

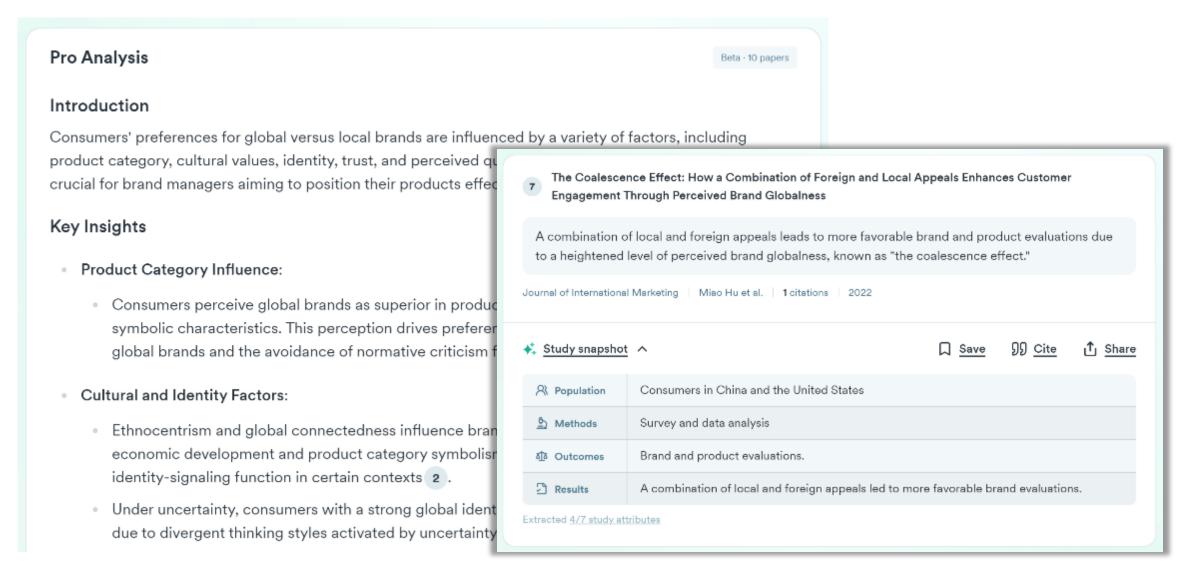












Literature exploration: RAG models



Retrieval-augmented generation (RAG) models combine retrieval models with generative models (e.g., LLMs) to answer questions or generate content based on specific knowledge sources

"PaperQA2, a frontier language model agent optimized for improved factuality, matches or exceeds subject matter expert performance on three realistic literature research tasks without any restrictions on humans (i.e., full access to internet, search tools, and time). PaperQA2 writes cited, Wikipedia style summaries of scientific topics that are significantly more accurate than existing, human-written Wikipedia articles."

Skarlinksi et al. (2024), Language agents achieve superhuman synthesis of scientific knowledge, https://arxiv.org/abs/2409.13740

Literature exploration: PaperQA2



- Paper QA2 is freely available: https://github.com/neuracap/paperqa
- Install with a single command line (pip install paper-qa)
- Obtain and set your OpenAI and Semantic Scholar API keys
- Select the folder containing all articles
- Run "pqa ask 'Your question"
- Use setting "wikicrow" for summaries
- Can also be used for searching papers

FAM83H

Overview

FAMB3H, or Family with Sequence Similarity 83 Member H, is a gene located on chromosome B in humans that encodes a protein belonging to the FAMB3 protein family. This protein family is characterized by a conserved domain known as DUF1689, which includes a pseudo-phospholipase D motif, although it lacks catalytic activity, suggesting a role as a pseudoenzyme (Bozatzi2018The)...

Structure

The molecular structure of the FAM83H protein is characterized by a conserved N-terminal domain known as DUF1669, which includes a pseudo-phospholipase D (PLD) catalytic motif. This motif, however, lacks essential elements for actual catalytic activity, rendering the FAM83 proteins as pseudoenzymes (Bozatzi2018The). The primary structure of FAM83H lacks well-defined structural characteristics or known functional domains, except for the mentioned PLD-like domain, suggesting a conserved secondary structure and similar three-dimensional fold (Wang2015Fam83h)...

Function

FAM83H, or Family with Sequence Similarity 83 Member H, plays a crucial role in the regulation of keratinization in epithelial cells, which is essential for the formation of the protective outer layer of the skin (Barr2019Long). This gene is also involved in the organization of the keratin cytoskeleton, maintaining the structural integrity and function of epithelial tissues (Barr2019Long)...

Clinical Significance

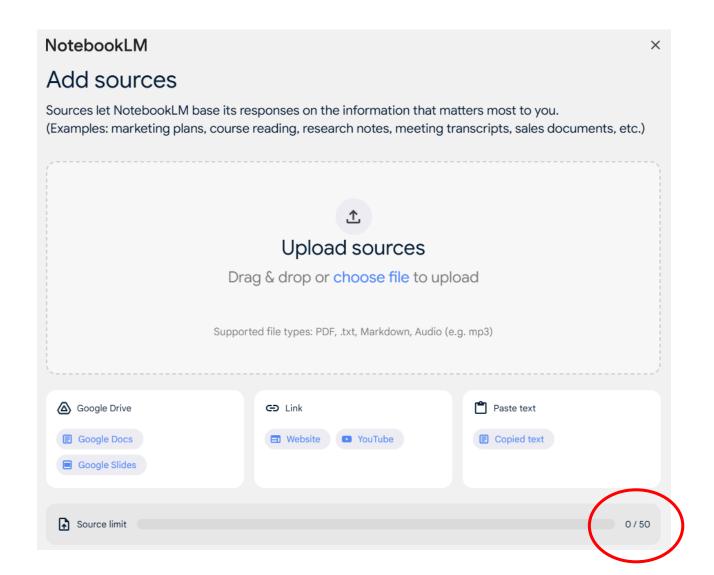
Mutations in the FAM83H gene are primarily linked to autosomal dominant hypocalcified amelogenesis imperfecta (ADHCAI), a genetic disorder that affects dental enamel formation, leading to enamel that is soft, thin, and prone to rapid abrasion after tooth eruption. The condition is characterized by yellowish-brown discolored enamel that exhibits reduced mineral density and increased sensitivity (Sriwattanapong2021Age-related; Lee2010FAM83H)...

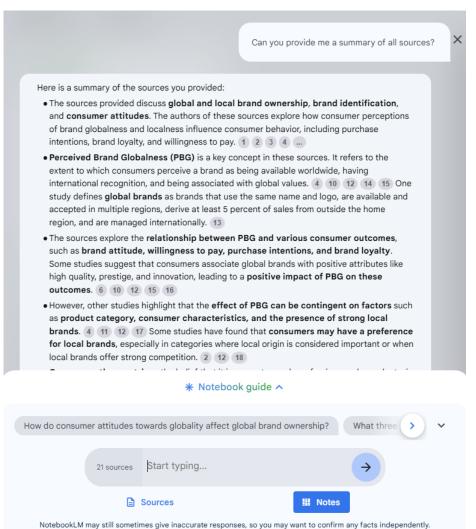
Interactions

FAM83H interacts with various proteins, playing a significant role in cellular processes such as keratin filament organization and signaling pathways. It binds to case in kinase is (CK-1a) through a specific motif in its N-terminal region, which is crucial for recruiting CK-1a to keratin filaments in epithelial cells. This interaction is essential for the dynamic rearrangement of keratin filaments, impacting cell migration and polarization, particularly in colorectal cancer cells (Kuga2013A)...

Literature exploration: Google NotebookLM









Collecting & analyzing data using Al tools

Data collection



LLMs help develop custom web scraping scripts and access APIs

- Feed them with the source codes or API documentation
- Explain what you want to extract (mention particularities) and how the data should be recorded
- Specify the preferred programming language (e.g., R, Python)
- Run the developed script and revise it iteratively

Data collection: Examples



Exchange Rate Extraction

```
mport requests
from bs4 import BeautifulSoup
Import pandas as pd
# Load the Excel file
file path - 'C:/Users/Mandler/OneDrive/Dokumente/Python Scripts/exchange rates additional.xlsx
exchange_data = pd.read_excel(file_path)
# Function to scrape exchange rates from a given XE.com page
def scrape_exchange_rate(url):
    try:
       # Send a GET request to the URL
       response - requests.get(url)
       response.raise for status() # Raise an error for bad status codes
       # Parse the HTML content using BeautifulSoup
       soup = BeautifulSoup(response.content, 'html.parser')
       # Find the table row that contains 'USD'
       usd link = soup.find('a', string="USD")
       if usd link:
            row - usd link.find parent('tr')
           # Extract the  elements (the <th) is treated separately)
            cols = row.find all('td')
           if len(cols) >= 3:
               usd per cur = cols[1].text.strip() # 2nd  is usd per cur
               cur per usd = cols[2].text.strip() # 3rd 1s cur per usd
               return usd per cur, cur per usd
```

59 lines (Python)

YouTube API

```
1 install.packages("httr")
   install.packages("jsonlite")
   install.packages("dplyr")
   library(httr)
   library(jsonlite)
    library(dplyr)
 9 - get_comments_for_videos <- function(video_ids, api_key) {
      get_youtube_comments <- function(video_id, api_key) {</pre>
        url <- "https://www.googleapis.com/youtube/v3/commentThreads"
        comments <- data.frame()</pre>
        # Set initial parameters
        params <- list(
          part = "snippet",
         videoId = video_id.
          key = api_key,
          maxResults = 100
20
21
```

91 lines (R)

Data analysis



Qualitative data

- NVivo (with Lumivero AI)
- ATLAS.ti
- Otter.ai (transcription)
- Sonix.ai (transcription)
- Maestra (transcription)

Quantitative data

- Claude.ai (as co-pilot)
- ChatGPT (as co-pilot)
- Julius Al

^{\$} Licenses range from 8.33 to 26.00 USD/month [exception: NVivo with Lumivero AI: 660+ EUR/year]



Writing manuscripts using Al tools

Manuscript writing



- Grammarly: General writing assistant (solid free version)
- Hemingway: General writing assistant (free version only in browsers)
- QuillBot: Writing assistant with additional features, e.g., paraphraser and plagiarism check (free version limited to short texts)
- PaperPal: Academic language editing service (limited free version)
- Scite_: Identification of citations and reference check (7-days trial)

^{\$} Licenses range from 8.33 to 17 USD/month or 20 USD one-time purchase (Hemingway)



Creating applications using AI tools

Programming



Al tools drastically lower the barriers to writing code for **any type of application**

- Al-powered code editors (e.g., Cursor) and co-pilots are revolutionizing programming
- Basic knowledge can help understand what is happening and get better results faster
- Al can also help with debugging



Aider.ai



Aider (https://aider.chat/) is "AI pair programming"

- translates your prompts in natural language into programming code
- creates and runs the files to preview the outcome
- revises the files (or file you feed it) according to your wishes
- works with all common LLMs (API key required), including GPT-4o,
 Claude 3.5 Sonnet, Gemini 1.5, and Llama

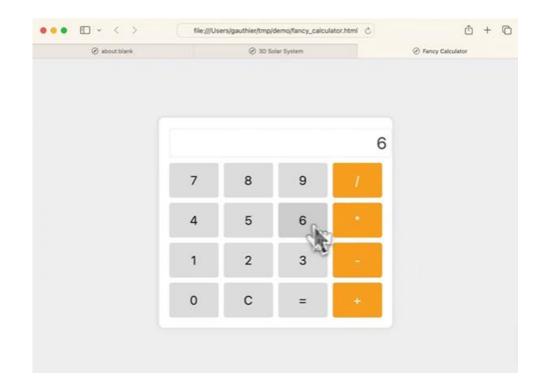
Examples: https://aider.chat/examples/README.html

Aider.ai: Video screenshots



```
Aider v0.51.2-dev
Main model: gpt-4o-2024-08-06 with diff edit format
Weak model: gpt-4o-mini
Git repo: none
Repo-map: disabled
Use /help <question> for help, run "aider --help" to see cmd line args
> make a web page with a fancy calculator
```

```
macbook:-/tmp/demo
<mamu charset="UTI-8">
  name="viewport" content="width=device-width, initial-scale=1.0">
    Fancy Calculator</
       fant-family: Arial, sans-serif;
       display: flax;
       justify-content: center;
       align-items: center;
       height: 100vh;
       background-color: #f0f0f0;
    .calculator {
       background-color: #fff;
       padding: 20px;
       barder-radius: 10px;
       box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);
    .display {
       width: 100%;
       padding: 10px;
       tant
```



Summary



- Numerous Al tools
- Some tools are completely free and powerful, while others only offer rather limited free versions
- Most leverage the capabilities of the same underlying AI models (e.g., GTP-4) and/or data sources (e.g., Crossref)
- API access can help you to use AI capabilities at a large scale (looping) and in a replicable way (transparent configurations)



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