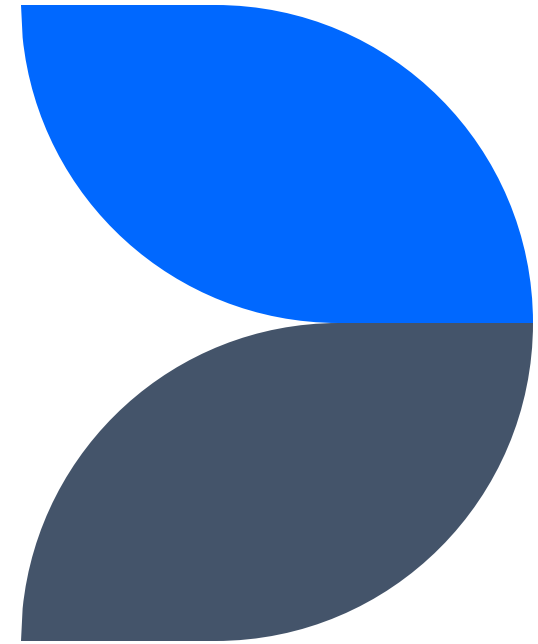


TLDHubeR

A GPT-Powered Search and
Summary App for the Huberman
Lab Podcast

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Background/Motivation

The Problem: The Huberman Lab Podcast offers valuable insights into neuroscience, yet its insane amount of content makes it difficult for listeners to find specific information quickly. This gap hinders accessibility for new audiences and those seeking quick summaries.

Previous Works: Various applications have used Large Language Models (LLMs) for content summarization, but they often lack a focused approach on neuroscience and the specific depth offered by the Huberman Lab Podcast.

Our Approach: TLDHubeR leverages an LLM specifically tuned to search and summarize the Huberman Lab Podcast, integrating advanced text processing with a user-friendly interface. This solution provides precise, accessible content summaries and direct links to relevant podcast segment, enhancing the podcast's reach and usability.



Data Used

1. The Official RSS feed of the Huberman Lab (metadata)
2. Andrew's YouTube channel (videos, and transcripts)

Use Cases

Alice: Is an **active listener** and remembers a topic discussed in the Huberman Lab but **can't pinpoint the episode or the details.**

Interaction: She uses a chat box to enter keywords, expecting a shortlist of episodes with those discussions, complete with timestamps or direct YouTube links starting at the relevant moments.



Bob: Is recommended a specific episode by Alice but **prefers a summary over a lengthy listen**, with only an approximate episode title at hand.

Interaction: Bob inputs the approximate title, receiving a concise summary with main points, recommendations, and direct links to segments in the podcast so he could prove to Alice he listened.



Rogan: **Never heard of Huberman** but wants a single view of all discussions on "dopamine" for his upcoming squabble with his Huberman obsessed friend, Alice.

Interaction: He searches for "dopamine," expecting an aggregated summary from across the dataset, with the ability to request further elaboration on the summary in an interactive, conversation-like manner.



Design---Backend

1. llama-index + OpenAI API

- The transcripts with metadata were merged and organized into .json files
- The .json was ingested + annotated with extra metadata extracted by GPT-3.5 (keywords, summaries)
- The output + embeddings were organized into a llama-index VectorStoreIndex, allowing for a chat connection with GPT-4

Search Behavior

1. User Supplies Prompt
2. A vector embedding for the prompt is generated using the OpenAI API
3. This vector is used to search the Index for chunks of podcast that are "similar" to the prompt
4. Chunks are retrieved, along with attached metadata like links and timestamps
5. We extract the metadata for embedding the youtube video and send the rest off to the LLM as an enhanced prompt with context

Design- Frontend

Streamlit Application

- Intuitive interface with prompt engineering for tailored responses.
- Features include embedding the most relevant video, other recommended video links, and concise summary paragraphs with direct quotations from podcasts.

User Customization & OpenAI API

- Allows personal API key input.
- Provides comprehensive background information on Andrew Huberman and what types of information can be found in his podcasts.
- Ability to clear the chat history



TLDHubeR

dexa.ai/andrewhuberman

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Deploy

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OpenAI API Key

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[Get an OpenAI API key.](#)

[View the source code](#)


About Andrew Huberman

Andrew Huberman is a distinguished neuroscientist and tenured professor in the [Department of Neurobiology](#) at the Stanford University School of Medicine. Dr. Huberman founded the [Huberman Lab](#) at Stanford, where he and his team delve into the intricate mechanisms of brain function. His research spans various aspects of neuroscience, including brain development, brain plasticity, and neural regeneration, aiming to understand how the brain perceives and responds to the world at a fundamental level.

Dr. Huberman's contributions to neuroscience have been recognized globally, earning him prestigious awards and honors. He is not only a prolific researcher but also a passionate educator, dedicated to sharing insights about the brain's capabilities and how we can harness its potential for learning, healing, and adaptation.

TLDHubeR: Search and Summarize the Huberman Lab

Hint: Are you a Hubernoob? If so, try searching for sleep!



Ask me a question about my podcasts.

Clear Chat History

Search Query

➤

Lessons Learned & Future Work

- Currently, the app can only run locally, because we haven't set a remote location to store the vector database
- In the future, we'll host the app on Streamlit Community Cloud, as well as use Google Cloud to store the vector database
- Quality RAG is mostly about the retrieval
- **Git is fun --force**



Q&A

ask Huberman

