Grants Self Service

Dr. Charreau Bell, Jasmine Guo, Brian Jung, Gabriel Orozco, Aditya Shrey

Sponsored Programs Administration

"The Sponsored Programs Administration (SPA) serves as a central resource providing guidance and stewardship that supports the entire research community at Vanderbilt University."

Responsibilities Include:

Pre-award Support	Proposal Preparation, Submission, and Tracking	Process Proposals	Negotiate Grants, Contracts, and other Agreements

VANDERBILT UNIVERSITY

SPA's Challenge

The process of developing and submitting grants by faculty can be **difficult**.

How can we **accelerate** this process.

VANDERBILT UNIVERSITY

Advantages

Past Documents

479,980 *previously submitted grants*

Considerations

Data Privacy

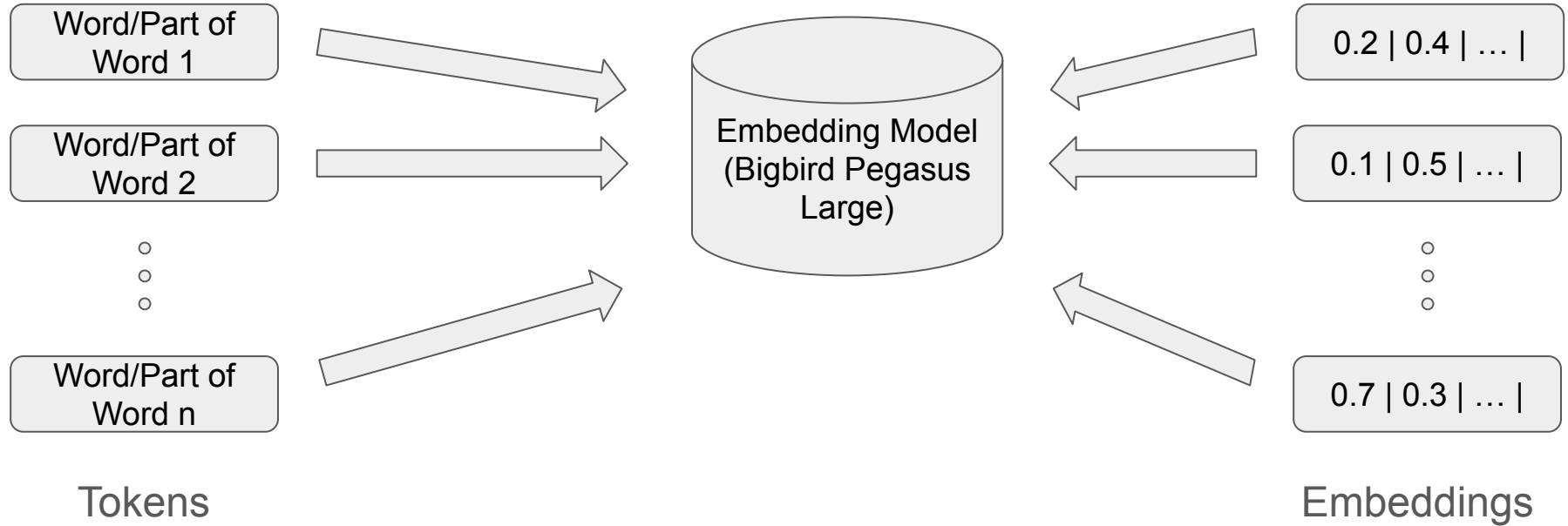*Level 4 'Critical' Data as deemed by Vanderbilt*

VANDERBILT UNIVERSITY

Advantages

Considerations

Past Documents

479,980 previously submitted grants

Data Privacy

Level 4 'Critical' Data as deemed by Vanderbilt

Development restricted to secure environments. Namely, Vanderbilt's high performance computing ACCRE
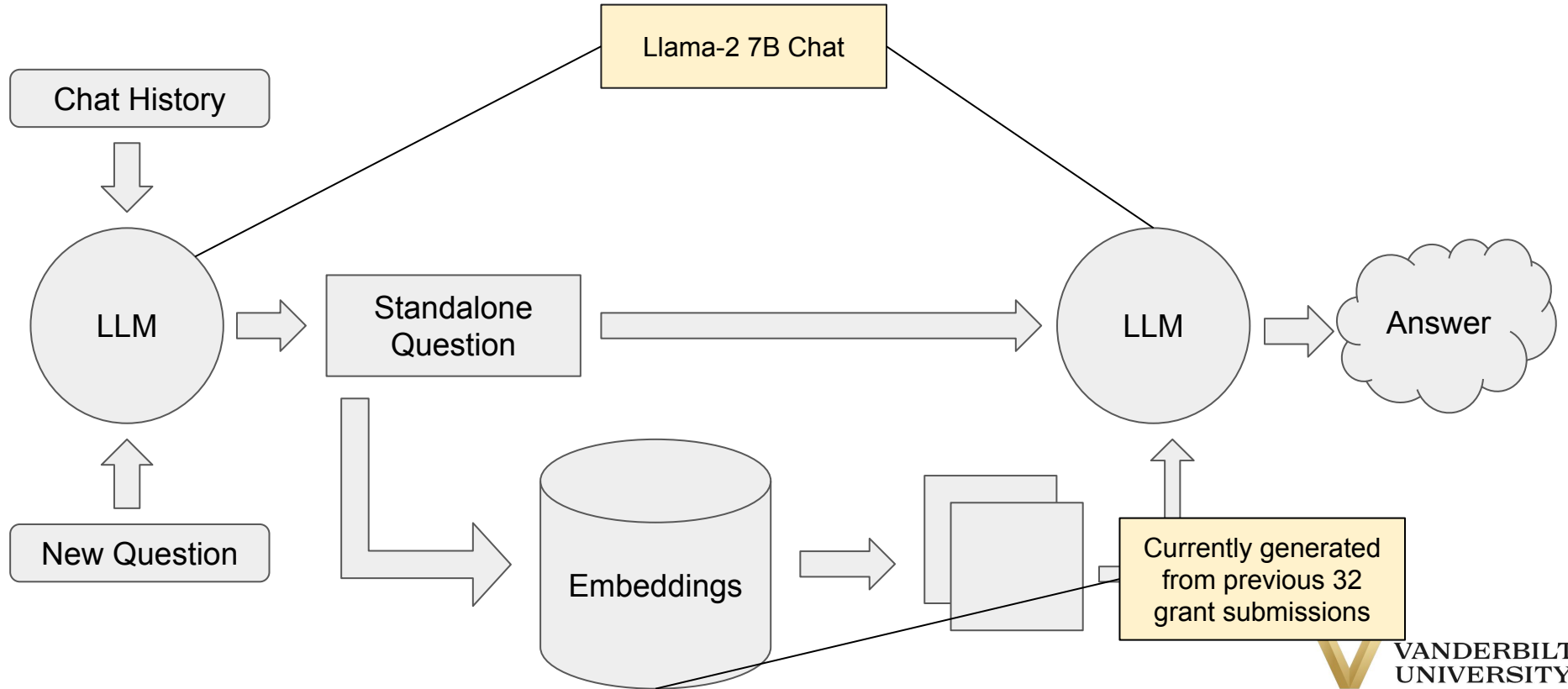
VANDERBILT UNIVERSITY

Our Idea

Create a self-service system designed to accelerate the process of developing and submitting grants, enabling faculty to quickly access prior grant information and address grant related inquiries efficiently.

The project leverages private, institutional instances of generative AI, explore retrieval augmented generation (RAG), and utilize vast quantities of existing data.

VANDERBILT
UNIVERSITY

Generating the Embeddings

RAG Implementation

Chat History

Llama-2 7B Chat

LLM

New Question

Standalone Question

Embeddings

LLM

Answer

Currently generated from previous 32 grant submissions

User Interaction

Vanderbilt Grants Self Service

Write the question in the Input section. The Save Chat History button saves the question and response as a CSV file. (Created by the Vanderbilt Data Science Team.)

💬 Chatbot

You: What is the summary of the proposal?

Bot: In their seminal 1953 paper, James Watson and Francis Crick propose the double helix structure of DNA, highlighting its two antiparallel polynucleotide strands and base pairing via hydrogen bonds, which suggests a possible copying mechanism for genetic material. Their model emphasizes the specific pairing between the bases of adenine with thymine and guanine with cytosine, crucial for the structure's stability and biological function.

Examples
What is the summary of the proposal?   ▼

Input
What is the summary of the proposal? | Enter

Save Chat History

UI:
Gradio

Display of chat history

Example questions

Save Chat History into a csv file

VANDERBILT UNIVERSITY

What's Next

Quantitative evaluation of different models.
Focused more on implementation but need to verify response effectiveness.

Train an embedding model for these grants.
Current implementation is too dependent on similarity score.

Utilize Azure
Microsoft Azure is a cloud computing platform developed by Microsoft. In the future, we can use Azure for vector storage, embedding models, chatbots, and more.

VANDERBILT
UNIVERSITY