Daily Stand Up:
The Journal App

A Project By :

Monali, Dimitra, Yannik,

Torsten

Contents

- The Team & Business Problem
- Daily Stand Up: The Journal App
- Live Demonstration
- Model Concepts
- Future Goals

The Team & Business Problem

The Team

Dimitra Gkogkou
Emotion Classification

Data Scientist | Physicist (PhD) | Scientific Editor

Monali Talele
Q&A Chatbot

Category Manager | Data & Analytics | Tech (M.B.A)

Torsten Chandler
Data & Analytics

Data Scientist | Researcher Health Economist (PhD)

Yannik Hake
Architecture

Full Stack Developer | Urban Design | Geography

Idea

“Wouldn’t it be nice if you could talk with your private journal in the same way you interact with a chat engine like ChatGPT?”

Daily Stand Up : The Journal App

- ✓ **Journal Entry with Emotion Classification**
- ✓ **Personal History Chatbot**
- ✓ **Mood Tracking Dashboard**

Business Problem

Supports Mental Health	We built an app that supports mental health through the clinical benefits of journaling
Data Privacy	App runs locally and does not expose the user’s data
Fit for a broad Audience	This app is suitable for anyone who wishes to improve their overall mental well-being

Live Demonstration

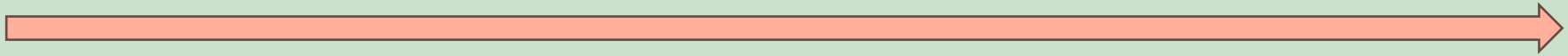
Technologies Used

App	Q&A Chatbot	Emotion Classification	Mood Tracking
●Docker ●Hasura ●Postgres ●FastAPI ●SvelteKit ○ Houdini ○ AuthJS ○ Skeleton	●Langchain ●Llama3 ●Ollama ●Postgres Vector ●Ollama Embeddings	●Hugging Face ●Pytorch ●Use our model for direct inference ●Guide to the entire modeling process	●Streamlit

Model Concepts

Personal History Chatbot

- Learns from your past experiences and emotions
- Provides personalized responses.



User Question

Personal History Chatbot Response

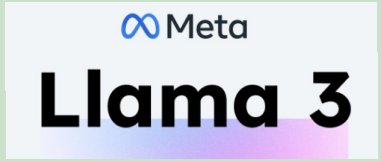
”How was I feeling last week?”

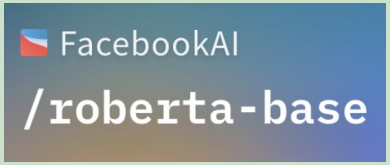
”Last week, you were feeling happy because you spent time with friends.”

Large Language Model (LLM)

- Learn from large amounts of texts to understand and generate language.
- They represent words as vectors (numerical form) and use neural networks (advanced maths), to understand the meaning behind them.
- They can translate languages, summarize books, and answer questions.

Popular LLM Examples:

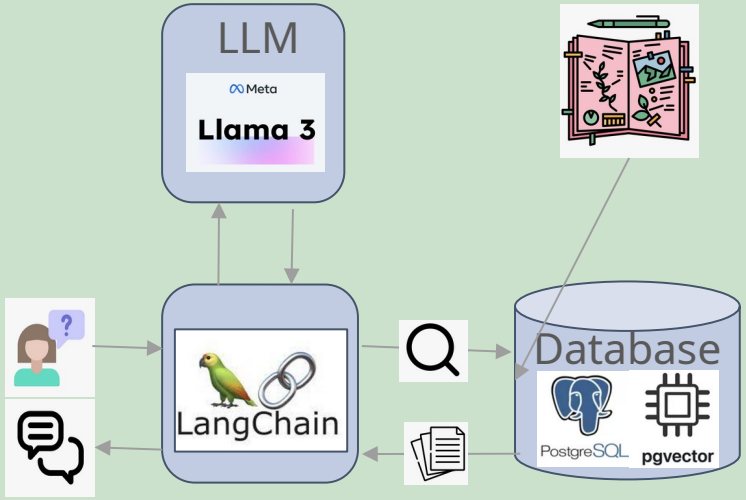




Retrieval Augmented Generation (RAG)

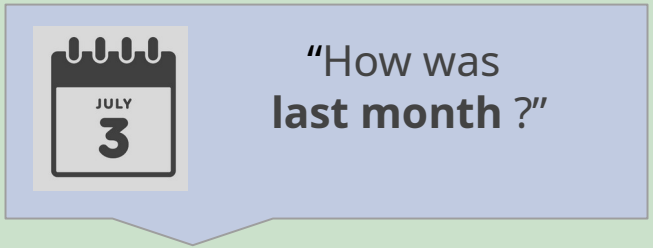
The RAG model works in 3 steps :

1. **Augmentation**
   Journal entries are stored in the database.
2. **Retrieval**
   When a user asks a question, relevant information is retrieved from the database.
3. **Generation**
   Generates an answer using the retrieved information.



Relative Date Functionality

- RAG Model failed to understand questions with relative dates.
- Additional relative date filtering functionality added.



Emotion Classification - Explanation

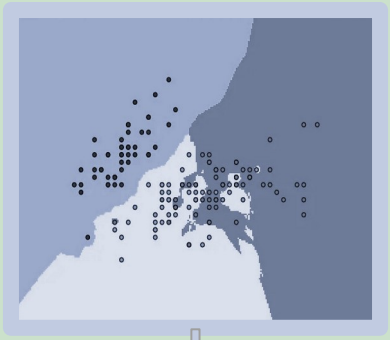
Application
Enables our app to analyze and categorize emotions in journal entries

Classification
Identifying and categorizing emotions expressed in text

Dataset
8000 tweets labelled with 6 feelings - anger, fear, sadness, joy, love, surprise

Emotion Classification - Modeling

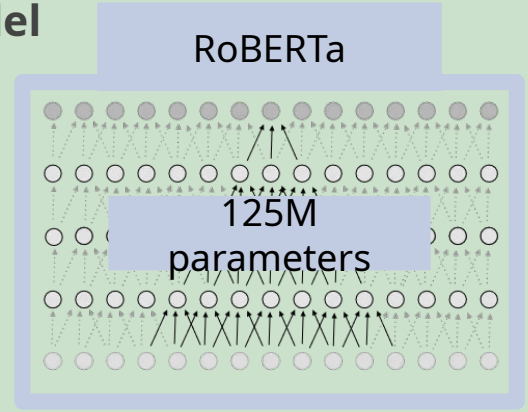
- **Baseline Model** - K Nearest Neighbours



Emotion Dataset

Accuracy : 61 %

- **Transfer Learning with Transformer Model**



Emotion Dataset

Accuracy : 92 %

Future Goals

A. Faster Chat Response

B. Encrypting user entries for enhancing protection

C. Expand Emotion Palette

D. Integrate App and Dashboard

Thank you !

Any Questions?