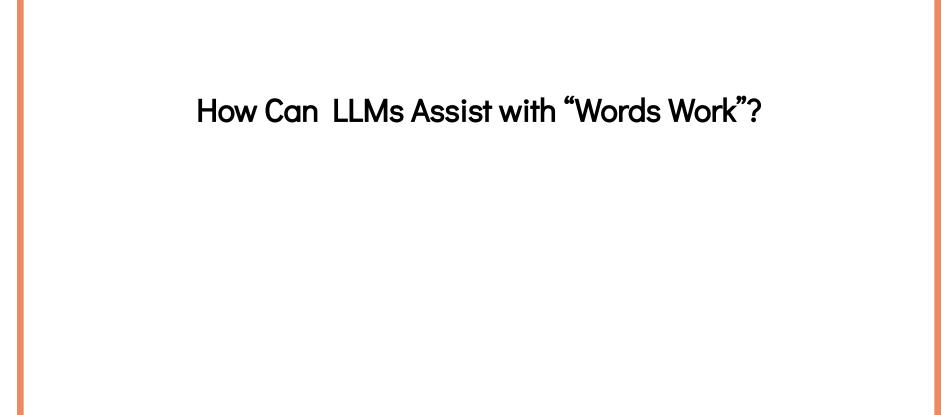GRIDSPACE IAP 2024 LECTURE 8
LLMs, Language and Labor

February 1, 2024

Introduction

- The Story So Far

- Language Week

- A Twist!

A Different Perspective

- Language

- Work

How Can LLMs Assist with "Words Work"?

How Can LLMs Assist with "Words Work"?

or,

How Can LLMs Assist with "Words Work"?

or,

Human-Computer Solidarity in Language Labor

The Path

1. Foundational Conversational Ability: Natural Language Generation

2. The Knowledge Base: Retrieval-Augmented Generation

3. Coaching: Few-Shot Prompting/In-Context Learning

Conversation Basics
Natural Language Generation (NLG)

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Natural Language Generation (NLG)

Virtual Agent: Could you tell me the last four digits of your social security number?

Human: I'm sorry, a truck went by. What did you say!

Virtual Agent: Oh no problem! I asked if you could please tell me the last four digits of your social security number.

Foundational Conversational Ability
Natural Language Generation (NLG)

Benefits for Work:
- Streamlined bot design
- Many hours of "busy work" eliminated

The Knowledge Base
Retrieval Augmented Generation (RAG)

The Knowledge Base
Retrieval Augmented Generation (RAG)

- Optimizing the KB for human readability and ease of use as a proxy for supporting the LLM

- "Reference language"

The Knowledge Base
Retrieval Augmented Generation (RAG)

Q&A Pair

Are you open on Memorial Day?
Our clinics are open 365 days per year to service
urgent medical needs which may arise at any time.

The Knowledge Base
Retrieval Augmented Generation (RAG)

Q&A Pair

Are you open on Memorial Day?
~~Our clinics are open 365 days per year to service urgent medical needs which may arise at any time.~~

Yes

The Knowledge Base
Retrieval Augmented Generation (RAG)

Q&A Pair

Are you open on Memorial Day?

~~Our clinics are open 365 days per year to service urgent medical needs which may arise at any time.~~

Yes, we are open

The Knowledge Base
Retrieval Augmented Generation (RAG)

Q&A Pair

Are you open on Memorial Day?
~~Our clinics are open 365 days per year to service urgent medical needs which may arise at any time.~~

Yes, we are open on Memorial Day!

The Knowledge Base
Retrieval Augmented Generation (RAG)

Q&A Pair

Are you open on Memorial Day?

~~Our clinics are open 365 days per year to service urgent medical needs which may arise at any time.~~

Yes, we are open on Memorial Day! <mark>In fact,</mark>

The Knowledge Base
Retrieval Augmented Generation (RAG)

Q&A Pair

Are you open on Memorial Day?
~~Our clinics are open 365 days per year to service urgent medical needs which may arise at any time.~~

Yes, we are open on Memorial Day! In fact, ==our clinics remain open==

The Knowledge Base
Retrieval Augmented Generation (RAG)

Q&A Pair

Are you open on Memorial Day?

~~Our clinics are open 365 days per year to service urgent medical needs which may arise at any time.~~

Yes, we are open on Memorial Day! In fact, our clinics remain open <mark>every day of the year.</mark>

The Knowledge Base
Retrieval Augmented Generation (RAG)

Q&A Pair

Are you open on Memorial Day?
<mark>Yes, we are open on Memorial Day! In fact, our clinics remain open every day of the year.</mark>

The Knowledge Base
Retrieval Augmented Generation (RAG)

Benefits for work:
- Central repository of preferred language
- Ease of maintenance
- Reduce complexity of bot construction
- Shorten iterative design cycles
- Deploy more quickly
- Adjust on the fly

Coaching
Few-Shot Prompting / In-Context Learning

Coaching
Few-Shot Prompting / In-Context Learning

Benefits for work:
- Alignment of the LLM's conversational ability, scripted dialog, and RAG
- Top Layer of Creative Control

Lecture 7 Revisited
Philosophy of Generative Linguistics vs. LLMs

Lecture 7 Exercises

- What is the rule of -f**king- insertion and how do we train an LLM model to correctly insert -f**king- to any word in English?

- How would you define if an LLM is memorizing a dataset? How few parameters would an llm need to have for you to be confident it wasn't memorizing a dataset?

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