AI Research

STUDY GROUP

Agenda

1. What is AI Research Study Group
2. Goal
3. Current Project
4. Delivery Pattern
5. Setup
6. QnA

1. What is AI Research Study Group

- As the name suggest it's a "Study Group"
- For Us, By Us
- Purpose is to drag everyone to completion
- By motivating and encouraging to fulfill the task assigned

2. Goal (Will Keep Evolving)

- Understand Transformers – Study the original Transformer paper to grasp the foundational concepts. (From "Attention is all you need_v7)
- Explore Large Language Models (LLMs) – Use the LLM Engineer's Handbook to understand large-scale models, their working modules, and architectural patterns (encoder, decoder, encoder-decoder, etc.).
- Apply Knowledge to Small Language Models (SLMs) – Implement an SLM incorporating the learned concepts, aligning with the M.Tech syllabus (PDFs, research papers, and reference books by professors).
- Clarify Scope – Focus on building an SLM without integrating a Retrieval-Augmented Generation (RAG) system.

3. Current Project - Transformer paper & LLM Engineer's Handbook

GitHub Repo: https://github.com/pandyaved98/transformers_from_scratch

- **Paper and Books are there in the paper folder of the repo.**

Packt Repo: https://github.com/PacktPublishing/LLM-Engineers-Handbook

4. Delivery Pattern

- Inspired by Hugging Face courses
- Tasks assigned with deadline
- Have meeting of deadline day
    - Discussion
    - Pair Coding
- Task to replicate the same in your repo(for your confidence and completion)
- Raise PR in the original Repo

5. Setup

- Books chapter 2 has some setup guides
- Some are in the Readme.md file
- https://github.com/PacktPublishing/LLM-Engineers-Handbook/blob/main/README.md
- Some other setups, Peers can help :)

Q&A