**Application for Question Answering on Glassdoor Reviews Dataset**

**1. Overview**

The primary objective of this project is to develop an answering to questions (QA) platform by implementing a model of transformers based on decoders. The objective is to create an interactive application using Streamlit by applying advanced AI methods such as fine-tuning and multi-modal integration.

**2. Project Goals and Scope**

Use Case: Utilizing a pre-trained transformers model (T5), our team developed a QA system that produces responses depending on contextual information. Users can ask queries of the system and get AI-generated answers.

The main objectives are to:

* Develop a transformer model for text generation based on decoders;
* Optimize the model with a custom dataset (glassdoor\_reviews\_val\_reviewResponses.csv”).
* For simple interactivity, implement the model in a web application that uses Streamlit.

**3. The Process of Implementation**

**Step 1:** Preparing the dataset

* extracted pertinent fields for training after loading the dataset.
* Text was preprocessed in order to organize the data for the model's input.

**Step 2:** Training and Model Selection

* Our base model was the Text-to-Text Transfer Transformer (T5).
* To enhance QA capabilities, it was adjusted on the dataset.

**Step 3:** Development of the Application

* Streamlit was used to create an interactive online application.
* The trained model was integrated to produce answers to user inquiries.

**Step 4:** Testing and Deployment

* Streamlit and Ngrok were used to deploy an application within the Colab environment.
* Tests were carried out to guarantee precise answers and seamless operation.

**4. Difficulties and Resolutions**

**Difficulties:**

* KeyError during Dataset Processing - Changed column names to conform to the structure of the dataset.
* CUDA Lack of Memory Error: When resources were scarce, CPU-based inference was used rather than GPU.
* Streamlit Installation Problem: Before executing the script, streamlit was manually installed using!pip install streamlit.
* Ngrok Authentication Problem: Made sure the tunnel was set up correctly and used a valid authtoken.

**5. Conclusion:**

Our project successfully developed a question-answering system using a transformer model based on decoders. The application shows how automatic responses can be enhanced by fine-tuned AI models.

Screenshorts

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