Machine Learning Task for Machine Learning Engineer role

Task Description:

Welcome to the Machine Learning Task for the Machine Learning Engineer role. This task is designed to assess your proficiency in building Natural Language Processing (NLP) tools using models available from Hugging Face. You will complete this task using Google Colab.

Task Steps:

Step 1: NLP Analysis and Creative Insights

- Utilize a Hugging Face model for text classification or named entity recognition to conduct a comprehensive analysis of the article titled "I Want to Open a Window in Their Souls: Haruki Murakami on the Power of Writing Simply."
- Extract key elements and discern themes from the content of the article.
- Create a basic recommendation system using Hugging Face's model to generate innovative ideas based on the extracted elements.

Step 2: Sentiment Analysis and Emotional Assessment

- Employ a Hugging Face sentiment analysis model to ascertain the sentiment conveyed in the provided article.

Step 3: Characters and Details Extraction

- Leverage Hugging Face's named entity recognition model to identify and extract character names and details from the article.

Step 6: Question Generation

- Integrate a Hugging Face model tailored for question generation.
- Utilize the provided article as input to automatically generate pertinent questions that align with its content.

Output Format:

For each step, provide clear and well-structured output that showcases your analysis, insights, or generated results. Specify the format you'll use to present the key elements, themes, recommendations, sentiment analysis results, character details, and generated questions.

Task Relationships:

Consider how the insights or results from one step can impact subsequent steps. For instance, how might the outcomes of NLP analysis influence the question generation process? Understanding these connections will contribute to a cohesive and effective solution.

Creativity Guidelines:

In addition to accuracy, we value creative and innovative approaches. Consider approaches that go beyond the standard methods, demonstrate outside-the-box thinking, or offer novel insights. Don't be afraid to experiment and present ideas that may diverge from conventional solutions.

Submission Guidelines:

Prepare and send us a comprehensive Google Colab notebook encompassing the following:

- Well-structured code for each step, accompanied by thorough explanations.
- Include insightful comments that provide clarity on the functionality of your code.
- Present a succinct summary outlining how each implemented functionalities meet the requirements of each step.

Evaluation Criteria:

Your submission will be evaluated based on the following criteria:

- Precise execution of each step's functionality as applied to the provided article.
- Code that is lucid, well-organized, and adequately commented to facilitate understanding.
- Demonstration of a solid grasp of Hugging Face models and their applications.
- Demonstration of creativity and innovation in addressing the assigned tasks.
- Articulate explanation of how the implemented functionalities align with the outlined responsibilities for the role.

Source Material:

Google Colab Sample.

Article for analysis: I Want to Open a Window in Their Souls: Haruki Murakami on the Power of Writing Simply

Models to utilize: Hugging Face Models

Important Note:

This task is an opportunity for you to demonstrate your technical skills and comprehension of the necessary functionalities. While it offers a streamlined version of the actual job responsibilities, please feel free to seek clarification or ask questions as needed. We wish you the best of luck with your task!