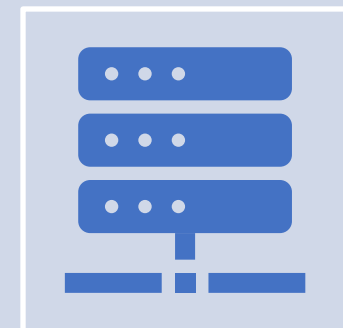


Purpose

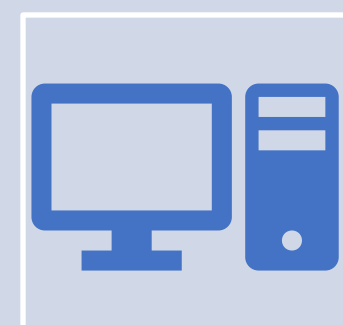
ChatGPT is a powerful artificial intelligence tool that is used as a chatbot for people to ask questions and talk to. The ChatGPT-generated texts are very similar to the texts generated by humans. This can prove challenging in education when AI text and human text cannot be distinguished. In response to this, our project is committed to addressing the task of discerning texts synthesized by ChatGPT, with a specific focus on educational contexts, particularly in the domain of short-answer questions. Our primary goal is to develop advanced AI technology capable of reliably identifying synthesized responses.

Project Path



AI ChatGPT, Human, and Paraphrased Responses

Gather Q&A datasets used to generate AI responses and paraphrase responses



Text-to-metric framework to make model-ready data

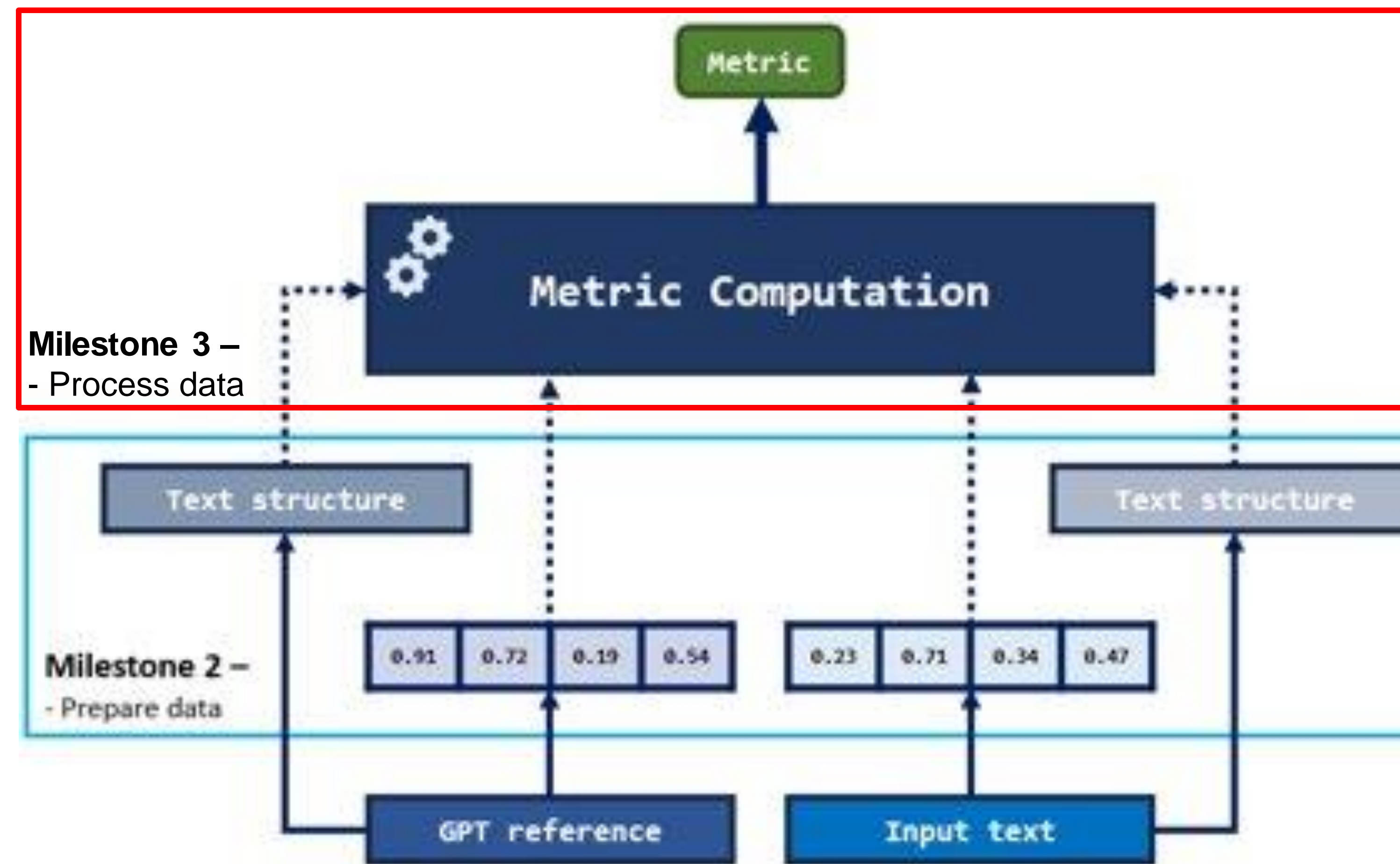
Transform the text data into metrics to allow computer processing and manipulation



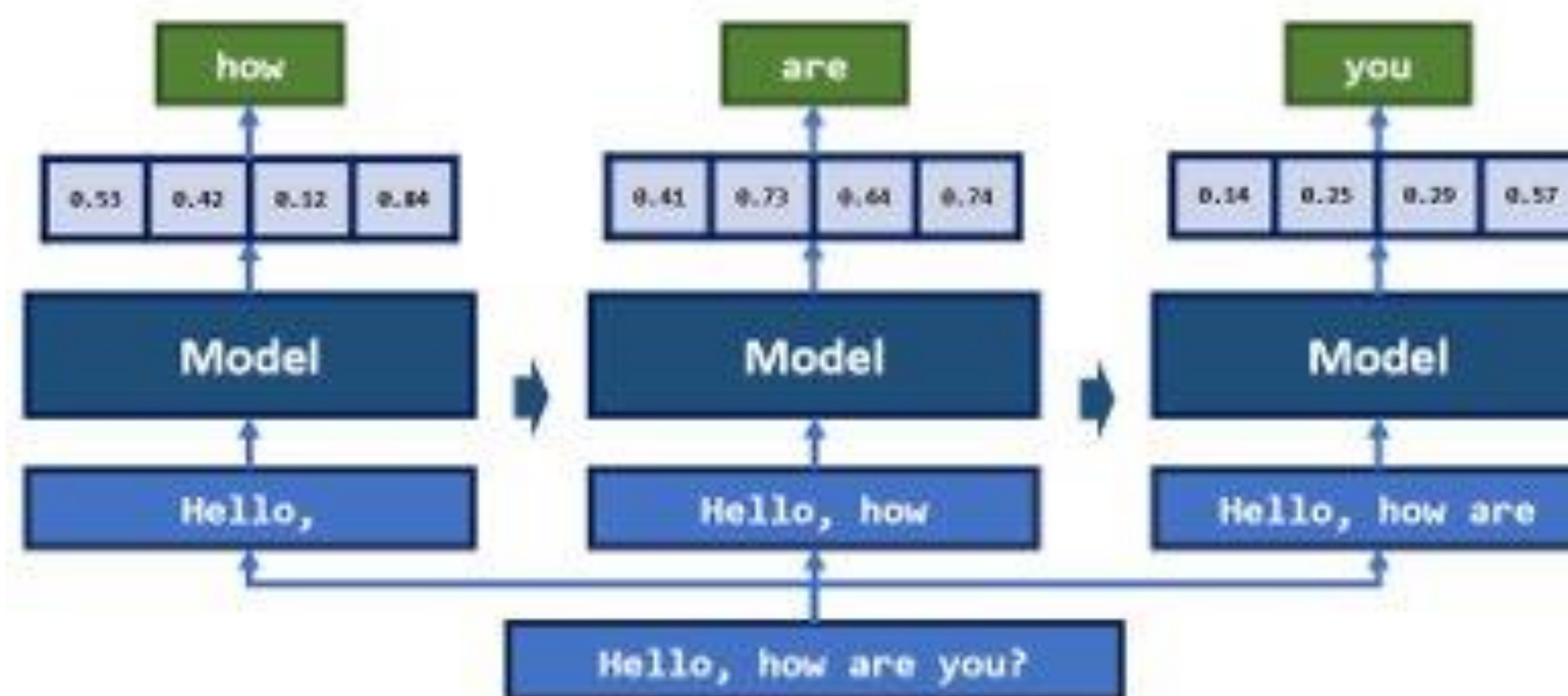
Detection model to see if a response is Human or from ChatGPT

Process embedded data into detection/accuracy models

Scope Diagrams



Text Embedding



Results - Phases

Milestone 1 Results:

Gathered over 2000 questions responses from multiple dataset sources to use as the original data for processing and learning.

Process data through to get ChatGPT response to questions and create paraphrased versions of those responses.

Original Data – "Predictive Maintenance is the process of determining when maintenance is necessary for an asset based on its current condition, in order to perform specific maintenance activities. It involves utilizing data analysis to predict when an asset may experience problems or break down, so that maintenance can be performed proactively to prevent downtime or costly repairs."

Paraphrased Response 2: "predictive maintenance is a proactive approach that uses data analysis and machine learning to predict when equipment or machinery will fail, by monitoring the condition and performance of assets organizations can schedule maintenance activities before any breakdown minimizing downtime and increasing operational efficiency"

Milestone 2 Results:

Embedding the text using pre-trained models while also structuring the data such as giving specific text tags such as adjective or conjunction and so forth.

Models:

- all-mpnet-base-v2
- all-distilroberta-v1
- all-MiniLM-L12-v2
- all-MiniLM-L6-v2
- multi-qa-mpnet-base-dot-v1

Milestone 3 Results: Run data for accuracy test to find best model overall which resulted in all-mpnet-base-v2 as it is the most well-rounded results for all the data. We mainly looked for highest accuracy for prediction of the embedded data and this model showed mostly .9 and above compared to the other datasets getting results less than .7 (Anything less than .7 is considered bad)



Project Showcase