**Answers**

**Assignment Question:**

Describe the most challenging AI problem or project you have worked on and the

approaches you took to solve it.

**Answer:**

Recently I worked on Speech-to-Text Recognition project and had to Work with conversations happening between 6/7 persons. I had to identify each speaker separately and figure ut the full dialog of the conversation, I used hugging-face Automatic Speech Recognition (ASR) model for the task.

The challenges were multiple. Identifying individual speakers in simultaneous conversations required intricate speaker diarization techniques. To overcome this, I employed Hugging Face's ASR model, using its capabilities in speaker identification and clustering algorithms to distinguish speakers accurately.

Cross-talk and overlapping speech posed another problem. I fine-tuned the model to adeptly transcribe simultaneous speech segments, using voice activity detection to isolate and transcribe individual talks within overlapping sections.

I also had to apply preprocessing techniques like noise reduction and normalization to omit unnecessary background noises, used amplitude parameters for it.

Overall, the project was interesting.

Also working on several forecasting projects. Studying and using Neural Prophet. The range of parameters are amazing.