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Overview of ML

a. Machine learning is training a computer to see patterns in large amounts of data.
b. In machine learning, pattern recognition, and accuracy is important, otherwise decisions, or conclusions can be made from data that is otherwise incorrect or corrupted. This can lead to bad decision making when it comes to research and in general can lead to bad analysis practices. Good data is also super important to machine learning since a computer will only derive accurate information from a complete test set.
c. Artificial intelligence is when a computer is able to solve something that normally needs a human to solve while machine learning is considered a subset of artificial intelligence and is a computer that learns how to derive information or a solution from a data set and by making a prediction.
d. Some applications of machine learning are most familiar, the TikTok algorithm, which uses machine learning to analyze videos on the application and will in turn recommend the user videos that will help to keep them on the app for as long as possible. Another popular application is on Spotify, where the company uses ML to engage users in music they might like by making playlists of songs they might enjoy. This would be almost impossible to do with traditional programming as each playlist or feed would require unique customization to each user. However, because of the large amounts of data that the application's already have, it becomes a lot easier to parse their preexisting data of what they already like or put in playlists in order to give them something they would like to hear or see.

e. Observation - observing or monitoring something in order to collect data; feature - something that is distinctive about a person or thing, a characteristic; quantitative data - data that can be quantified with numbers or measured; qualitative data - data that can not be easily quantified or easily measured with numbers.

   All of these terms are important to machine learning since generally speaking, data is the information that is going to be parsed and looked through and will probably have features that can be grouped with other sets of data and we can form a result from that data. Both quantitative and qualitative data is also important since both types of data will be extracted from the sets of data.

f. I am personally interested in Machine Learning since it has been pretty useful in many applications and I would like to see how I can integrate it into my programs if I can. I also think it would be good to learn more about it since it is such a powerful tool, it means that caution should be taken when determining how to use it and what I use it for.