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1. ML is a subset of artificial intelligence that allows systems to learn and improve over time given enough data but doesn't have to be programmed in the traditional sense. It's more algorithms, regression, and math that the system applies to itself.

2. Data provides the input that the machine learning model uses to learn and make predictions. Pattern recognition refers to the ability of the model to identify patterns and relationships within the data. Accuracy refers to the degree to which the model's predictions match the actual outcomes. Together, these three components allow machine learning models to make accurate predictions and improve over time as new data is added.

3. AI (Artificial Intelligence) is a broad field that includes machine learning, but also includes other techniques such as rule-based systems and expert systems. ML is a subset of AI and specifically focuses on building computer systems that can learn from data.

4. Examples of modern machine learning applications include image recognition and natural language processing. Image recognition is used in applications such as self-driving cars and security systems. These applications require the ability to recognize and interpret visual patterns, which is something that traditional programming would struggle to accomplish. Natural language processing is used in applications such as language translation and voice recognition. These applications require the ability to understand and interpret human language, which is something that traditional programming would also struggle to accomplish.

5. Observation refers to the process of collecting data. Feature refers to the individual characteristics of the data, such as the size or color of an object in an image. Quantitative data refers to numerical data that can be measured or counted. Qualitative data refers to non-numerical data, such as the color of an object. In machine learning, observations and features are used as input to train a model. The accuracy of the model's predictions can be improved by increasing the amount and quality of the data used for training.

6. I am personally interested in machine learning because of its ability to make predictions and improve over time. One of my personal projects is in esports data. My system tracks players matches and I’m looking to implement some ML to help create trend predictions to offer to players.