Overview of ML

1. Machine learning is the process in which computers can interpret data to draw conclusions, make predictions, and train the computer.
2. The importance of data comes from its ability to be clustered and learned from. Data used in a classroom setting will not at all be the same kind of data you will be using in the real world. In the real world, the data will need to be gathered and cleaned before being run through a machine learning algorithm. Pattern recognition allows for conclusions to be drawn from narrowly defined tasks. Analyzing these patterns allow for predictions to be made about the future data set. The importance of accuracy lies with if a prediction is truly a prediction or just a random guess. To make sure that accurate predictions are made, machine learning has a lot of techniques that it uses to gauge the accuracy and performance of its algorithms.
3. AI and ML work in tandem to create autonomous agents to perform certain tasks. For example, a self-driving vehicle uses AI to operate the vehicle, and uses machine learning to constantly gather data about its surroundings and upload it to a central repository of data.
4. Some machine learning applications that we can observe in our day to day lives are how companies pick which areas of the company need the most funding. They will gather data on which services of the company are used the most and then allocate more funding to them. Another machine learning application that GenZ interacts with on a daily basis is social media feeds tailored to your interests. For example, I interact with a lot of volleyball posts, so on my explore page, there are a lot of volleyball-related things for me to watch/buy.
5. An observation is an instance of data gathered on a specific topic. These topics that the observations are gathered on are called features. Quantitative data is an observation that is logged as a numeric value. Qualitative data is data that takes on one of a finite set of values (does not have to be words). These concepts are important to machine learning because this is the foundation of it. Data is where we can learn and draw conclusions from.
6. I initially registered for this class because I saw how renowned the professor was, but as I dove deeper into it, I realized how ML is the future of computing. I realized that there are so many conclusions to be drawn from obscure datasets. This will also allow for machines and AI to become smarter and more tailored to its task. I want to use ML to further increase my quality of work as a computer scientist.