Machine learning is the process of training a computer to produce desired outputs based on given inputs in such a way that it mimics human behavior.

Data is important to machine learning because it is what the machine learns from, without it we can not train the machine. Pattern recognition is important too because it allows the machine to create predictions on data that it has never seen before. Lastly, Accuracy is important because without it our machine isn't creating prediction, its only guessing.

Machine learning is a method used to create an AI for a specific purpose. Not all AI's use machine learning but machine learning is used to create AIs.

Two modern day examples of machine learning would be ChatGPT and facial recognition software. ChatGPT is a chat bot which uses the knowledge of all previous words in the conversation to create outputs which can't be done with traditional programming because of how complicated human languages are. Facial recognition also can't be done with normal programming due to the complex and detailed nature of human faces.

Data is the backbone to machine learning. Without data, machine learning cannot be done. Data can be sorted into two groups quantitative, data that can be represented by a number, or qualitative, data which can be represented by a category or classification. An instance of data is called an observation, the more observations we have the better we can train our machine and features are our machine. Features are the details of an observation, for example if our observations were about weather features would be things like temperature, humidity and atmospheric pressure. The more features we have in our observations the more information our machine has to work with.

I was really into machine learning back in high school, I made some AIs that could play a few NES games using genetic algorithms. I am most interested in trying to learn Neuroevolution of Augmenting Topologies (NEAT) because I believe it to be the most efficient. I believe that I could make some interesting things with machine learning for both personal and professional projects.