Define ML in your own words
Machine learning is an application of Artificial intelligence (AI) that enables computers to autonomously learn from data and identify patterns within that data to make projections.

In a paragraph, summarize the importance of data, pattern recognition, and accuracy in machine learning.
Data is important because it tells a story. Individuals and corporations usually make observations and predictions based on recorded data by tracking it. Furthermore, data may be used as a barometer for business success efforts, verification, and characterization. Data can also be categorized using a method known as pattern recognition. Pattern recognition attempts to discover data characteristics in order to offer insight into that data set. Pattern recognition is important because a recurring set of data can develop a pattern that can be used to predict trends, create identification configurations, develop combinations of phrases for natural language processing, and examine behaviors within systems associated with specific protocols. Within each of those listed examples, the accuracy of the results is measured by using performance models that compare the results to the test data.

Describe the relationship between AI and ML.
Machine learning is an application of artificial intelligence (AI). The goal of AI is to develop intelligence within systems by having those systems consume data and learn techniques to make decisions. They accomplish this by training the system, which is where machine learning comes in. Machine learning is a data-driven method of decision-making, and it is this technique that facilitates the system's intelligence.

List at least 2 examples of modern machine learning applications, and explain why these applications could not be built with traditional programming.

Fraud Detection Systems - The traditional programming method would not work in this scenario because thousands of variable and if-else statements would be required to encourage recognition inside the system.

Product Recommendations - Given the variation in the data input and the intricacy of the scenario, typical programming approaches would not function in this case.

In a paragraph, define the terms observation, feature, quantitative data, and qualitative data and discuss their importance in machine learning.
Observations are instances of the data within a data set. A feature is an attribute or characteristic of that data. Quantitative data is measured and can be expressed using numbers, whereas qualitative uses descriptions based on characteristics of that data. Qualitative data usually comes in form of unstructured and semi-structured data (e.g. Images, Audio, Documents). Quantitative data is structured data and is well defined (e.g. Stats, Tests, Reports).

Write a paragraph describing your personal interest in ML and whether/how you would like to learn more about ML for personal projects and/or professional applications.

My interest in machine learning stems from a desire to become proficient and active in the rapidly growing AI technology field, with the goal of merging different sectors (e.g., medical, educational, etc.) to promote efficient and effective solutions within communities and businesses. I aim to create unique solutions that will improve people's quality of life and teach a similar solution to those who are passionate about helping others. I'd like to study how machine learning can be utilized to produce medical predictions and prognoses that can assist doctors to make more rapid and precise diagnoses.