

Overview of ML

Machine Learning is the term used for training computers to understand and predict patterns in different data sets. The use of data is very important in machine learning because it is how computers are trained in learning scenarios. There is no learning without data and data can take shape in any number of forms. Another important part in machine learning is patterns because pattern recognition is a big part of machine learning. Our algorithms learn from data and after an immense amount of it, the computers are able to build their predictions for data used in the future. There are many ways to train the algorithms on data, one can feed the data in “batches” and another way allows the algorithm to continuously learn from data as it is released to the public. But this form comes with downsides such as memory limitations. It is important for computers to give accurate predictions using measurement techniques otherwise it is just a guess.

Artificial intelligence and machine learning are similar due to their relationship, but machine learning is a subset of AI. Machine learning is the process of studying data so the computer can recognize patterns and make predictions based on data it has not seen before. AI is where a computer system is trained to perform in a way similar to a human brain. For example, how we reason, learn new information, and make decisions based on that information. Two modern day examples of machine learning applications are product recommendations and traffic predictions. Machine learning uses product recommendations by learning from what you have looked at to predict other things you would be interested in buying. Traffic predictions are similar where they learn from previous data on how long it has taken someone in the past to drive somewhere and uses real time location sensors to predict how long it will take you to get to your destination.

Observation is a term that refers to a sample data point in a row, when looking at a table, also known as an example or instance. On the other hand, a feature is going to be a column when looking at sample data and often times referred to as a feature or predictor. When looking at supervised learning algorithms, we refer real-numbered values as quantitative and classifications as qualitative. This is important when understanding machine learning because it is centered around data and how it should be organized. We are training the computers on specific data sets to understand patterns and that means cleaning the data, organizing it, and making sure the data can be replicated.

I am interested in machine learning for both personal and professional development. I’ve been looking into it myself for a while now but my knowledge on the topic is very minimum and I am excited for any new challenges that will come from this class. I also love learning about new topics and expanding my skill set in areas I am not used to. I’d love to build my own machine learning project (if not in this class, then definitely on my own) and see if whether or not it would be something I would want to do in my career.

References

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