Lirio, Kyle Y.

BSIT 3 – AIML | Fundamentals of Artificial Intelligence

Supervised Learning

Naive Bayes

Random Forest

Unsupervised learning

K-Means Clustering

Density-Based Spatial Clustering of Applications with Noise

Association Rule Learning

Models Explained to Grade Schoolers

We have two different types of learning, Supervised and Unsupervised. Supervised learning is asking help for our teachers, parents, or YouTube videos to learn. Unsupervised learning is learning things by ourselves, meaning that we are going to figure things out without YouTube, parents, or teachers teaching us.

Naïve Bayes and Random Forest are supervised learning, meaning someone need to teach them to in order for them to learn. Naïve Bayes is like a detective, they need clues to find the culprit. They might have clues like the color of the culprit's shirt, culprit's fingerprint. Each clue can help the detective to find the culprit. Random Forest is like a bunch of detectives trying to solve who is the culprit. All of them discuss their findings and they are going to vote on who they think did it.

K-Means Clustering, Density-Based Spatial Clustering of applications with noise, and Association Rule Learning are Unsupervised learning, meaning they figure things out without YouTube tutorials. In K-Means Clustering, imagine there are two types of balls, one is big and other is small. Then you put each balls base on their size, big balls are in the left and small balls are in the right. Repeating this until the balls are in their right group. In Density-based spatial Clustering of applications with noise, imagine there are a lot of deer in the forest, you are trying to figure out what if those deers are friends. If there are many deer close together, meaning they are friends. In Association Rule Learning, imagine we are an art store owner, we noticed that people are buying a sketch pad, and a pencil. It helps use figure out on what people buy together.

Models Explained to High Schoolers

There are two types of how AI learns, Supervised and Unsupervised learning. Supervised learning is AI learns through human intervention while Unsupervised learned without human intervention, but learns by observing patterns.

Naïve Bayes and Random Forest are supervised learning. Naïve Bayes is getting clues or hints to predict. It works by calculating the chance of different outcomes based on features (clues and hints). Random Forest is a group of decisions trees. Decision trees is just like the famous app akinator. Now imagine a lot of decision tree, they work together so it can make a better prediction.

K-Means Clustering, Density-Based Spatial Clustering of applications with noise, and Association Rule Learning are Unsupervised learning. K-means Clustering is just a way to group similar Items. K means can help us group them base on their similarities, In short K means clustering find the best way to divide the items into groups. Density-Based Spatial Clustering of applications with noise can be used to identify where people gather by checking on how close they are to each other. Association Rule Learning is just like an online shopping platform, based on the previous purchase the app will now suggest an Item that is similar to what you bought recently.

Models Explained to College Students

There are two types of models in building an AI, Supervised and Unsupervised learning. In supervised training the AI can train using datasets or gathered data while Unsupervised is learning with unlabeled data by figuring out patterns and relationship between the data.

Naïve Bayes and Random Forest are supervised learning. Naïve Bayes is used to predict the category of a data point based on its features. An example of it is if there is a nose, lips, eyes, chin, It categorize as a face. Random Forest is made up of grouped decision trees. Each decision trees has its own prediction based on the data then they will vote on the final result. An example is imagine there is one student, and now the AI is going to predict if he is going to pass or fail. One tree will look in the attendance, and some will look in their past performance or grade. After all the trees make their predictions, the AI will now vote on the final decision base from the tree's prediction.

K-Means Clustering, Density-Based Spatial Clustering of applications with noise, and Association Rule Learning are Unsupervised learning. K-Means Clustering are grouping unlabeled dataset. It groups things that are similar by picking random sports to start, then moving the spot around until everything is in the right place. Density-Based Spatial Clustering of applications with noise is grouping the points that are close to each other and with the most denses are clusters, meaning the clusters are group that have similar characteristics. Association Rule Learning is finding relationships between things in data sets, and It's like discovering patterns that are often together.