1

00:00:00,600 --> 00:00:04,080

[Auto-generated transcript. Edits may have been applied for clarity.]

This week we are discussing supervised learning.

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00:00:04,260 --> 00:00:07,920

Specifically classification and regression.

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00:00:08,370 --> 00:00:13,530

We will also cover model evaluations and the learning process.

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00:00:13,800 --> 00:00:21,360

To recap, machine learning is a subfield of artificial intelligence focused on models or algorithms

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00:00:21,360 --> 00:00:27,600

that learn from data and generalize to unseen data without explicit instructions.

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00:00:28,910 --> 00:00:34,340

In supervised learning, we use a data set containing variables known as features.

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00:00:34,820 --> 00:00:41,210

These are the columns in a data set along with a dependent variable, also called the target or output.

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00:00:41,600 --> 00:00:49,040

Typically, you have a table listing features with one column as the target or class the value to predict.

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00:00:49,940 --> 00:00:54,290

When we talk about features. They are also referred to as attributes.

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00:00:54,830 --> 00:00:59,180

Each column represents a feature using a training algorithm.

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00:00:59,360 --> 00:01:03,110

We learn to predict the output from the inputs or features.

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00:01:03,620 --> 00:01:08,480

Essentially, we learn a function that maps feature columns to the target.

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00:01:09,140 --> 00:01:17,060

In classification, we predict a category. For instance, we might predict whether an image is of a dog or a cat.

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00:01:17,300 --> 00:01:20,570

Another example is predicting a person's eye color.

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00:01:21,230 --> 00:01:25,610

There are many applications where the target is discrete and categorical.

16

00:01:26,030 --> 00:01:30,050

In such cases, there are a limited number of categories.

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00:01:30,500 --> 00:01:35,840

When the target is a continuous numeric value, the task is called regression.

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00:01:36,530 --> 00:01:42,680

In regression, we learn a function that takes inputs and predicts a number.

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00:01:43,340 --> 00:01:52,460

For example, predicting a house price based on square footage, neighborhood age, and other features is a regression task.

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00:01:52,910 --> 00:01:57,260

The target is a numeric value, not a categorical label.

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00:01:57,740 --> 00:02:03,800

To summarize, classification predicts a discrete categorical value or label.

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00:02:04,250 --> 00:02:07,580

Regression predicts a continuous numeric value.

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00:02:08,240 --> 00:02:11,600

We will now discuss foundational machine learning models.

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00:02:11,840 --> 00:02:16,850

This serves as a recap since this content was introduced in the first week.