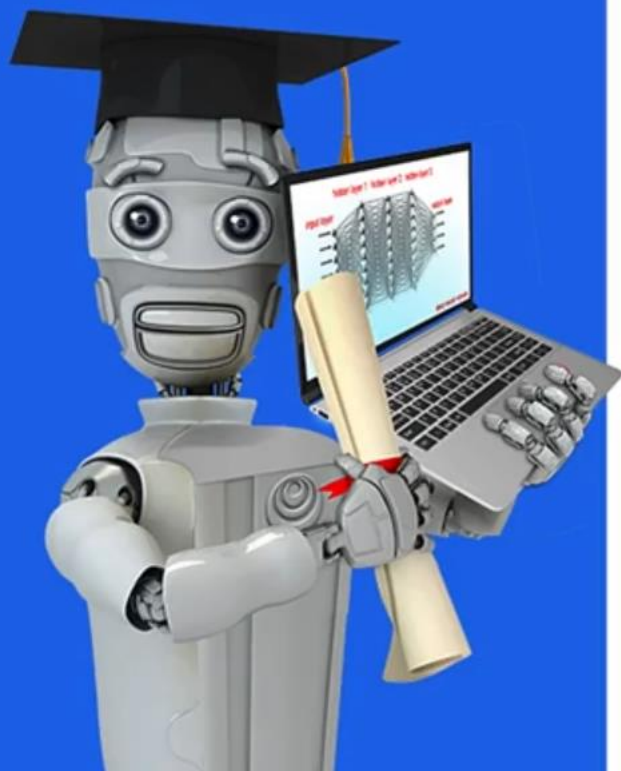


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Machine Learning Overview

Unsupervised Learning Part 2

Unsupervised learning

Data only comes with inputs x , but not output labels y .
Algorithm has to find **structure** in the data.

Clustering

Group similar data points together.

Dimensionality reduction





Compress data using fewer numbers.

Anomaly detection

Find unusual data points.

Question

Of the following examples, which would you address using an **unsupervised** learning algorithm?

-  ☐ Given email labeled as spam/not spam, learn a spam filter.
-  ☒ Given a set of news articles found on the web, group them into sets of articles about the same story.
-  ☒ Given a database of customer data, automatically discover market segments and group customers into different market segments.
-  ☐ Given a dataset of patients diagnosed as either having diabetes or not, learn to classify new patients as having diabetes or not