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Machine Learning with Python-From Linear Models to Deep Learning

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7. Different Kinds of Supervised Learning: classification vs regression

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classification vs regression

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All right.

Let's take a step back and look at things more broadly.

There are many types of supervised learning problems, as we illustrated.

A supervised learning task is one where you have specified the correct behavior.

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Classification maps **feature vectors** to **categories**. The number of categories need not be two - they can be as many as needed. **Regression** maps feature vectors to **real numbers**. There are other kinds of supervised learning as well.

For a more thorough statistical background on classification and regression, please check out the following links. [Classification](#) [Regression](#)

Classification or Regression? 1

1/1 point (graded)

Question 1: We want to come up with a classifier that classifies each news article into one of the following categories: politics, sports, entertainment. Is this a classification problem or a regression problem?

☒ classification

☐ regression



Submit

You have used 1 of 3 attempts

Classification or Regression? 2

1/1 point (graded)

Question 2: We want to estimate the price of bitcoin after 30 days. Is this a classification problem or a regression problem?

☐ classification

☒ regression



Submit

You have used 1 of 3 attempts

Different Types of Learning

1.0/1.0 point (graded)

Choose the type of learning that best corresponds to each of the following statements.

1) Labelled training and test examples

☒ supervised learning

☐ unsupervised learning

☐ semi-supervised learning

☐ active learning

☐ transfer learning

☐ reinforcement learning



2) Using knowledge from one task to solve another task

☐ supervised learning

☐ unsupervised learning

☐ semi-supervised learning

☐ active learning

☒ transfer learning

☐ reinforcement learning



3) Learning to navigate a robot

☐ supervised learning

☐ unsupervised learning

☐ semi-supervised learning

☐ active learning

☐ transfer learning

☒ reinforcement learning



4)Deciding which examples are needed to learn

☐ supervised learning

☐ unsupervised learning

☐ semi-supervised learning

☒ active learning

☐ transfer learning

☐ reinforcement learning



5)Data with no annotation

☐ supervised learning

☒ unsupervised learning

☐ semi-supervised learning

☐ active learning

☐ transfer learning

☐ reinforcement learning



6)Training and test examples with limited annotation

☐ supervised learning

☐ unsupervised learning

☒ semi-supervised learning

☐ active learning

☐ transfer learning

☐ reinforcement learning

