

# Supervised Learning

## 4.1 Supervised Machine Learning

At its core, supervised machine learning means \_\_\_\_\_.

Predictive models are based on \_\_\_\_\_ and are evaluated \_\_\_\_\_. Then, they are used to \_\_\_\_\_.

While correct class labels are known for training data, supervised learning is applied to \_\_\_\_\_.

Clustering and Classification can be used together by \_\_\_\_\_.

## 4.2 Classifiers

Decision trees are not suitable for tasks with a high number of features because \_\_\_\_\_.

When an image is processed by a neural network, each \_\_\_\_\_.

The k variable of the k-nearest neighbors algorithm defines \_\_\_\_\_.

## 4.3 Training and Testing

Validation sets are used to prevent overfitting by \_\_\_\_\_.

Besides determining whether a user is human, CAPTCHAs can be used to \_\_\_\_\_.

Validation data should only be used once to avoid \_\_\_\_\_.

Using only perfectly shot photos of zebras in profile to detect zebras in images can lead to overfitting because \_\_\_\_\_.

\_\_\_\_\_.

## 4.4 Evaluating Models

In a confusion matrix, true positive (TP) means that \_\_\_\_\_  
\_\_\_\_\_.

Trust in a model can be achieved by \_\_\_\_\_.

Bagging, boosting and stacking are ways of \_\_\_\_\_  
\_\_\_\_\_.