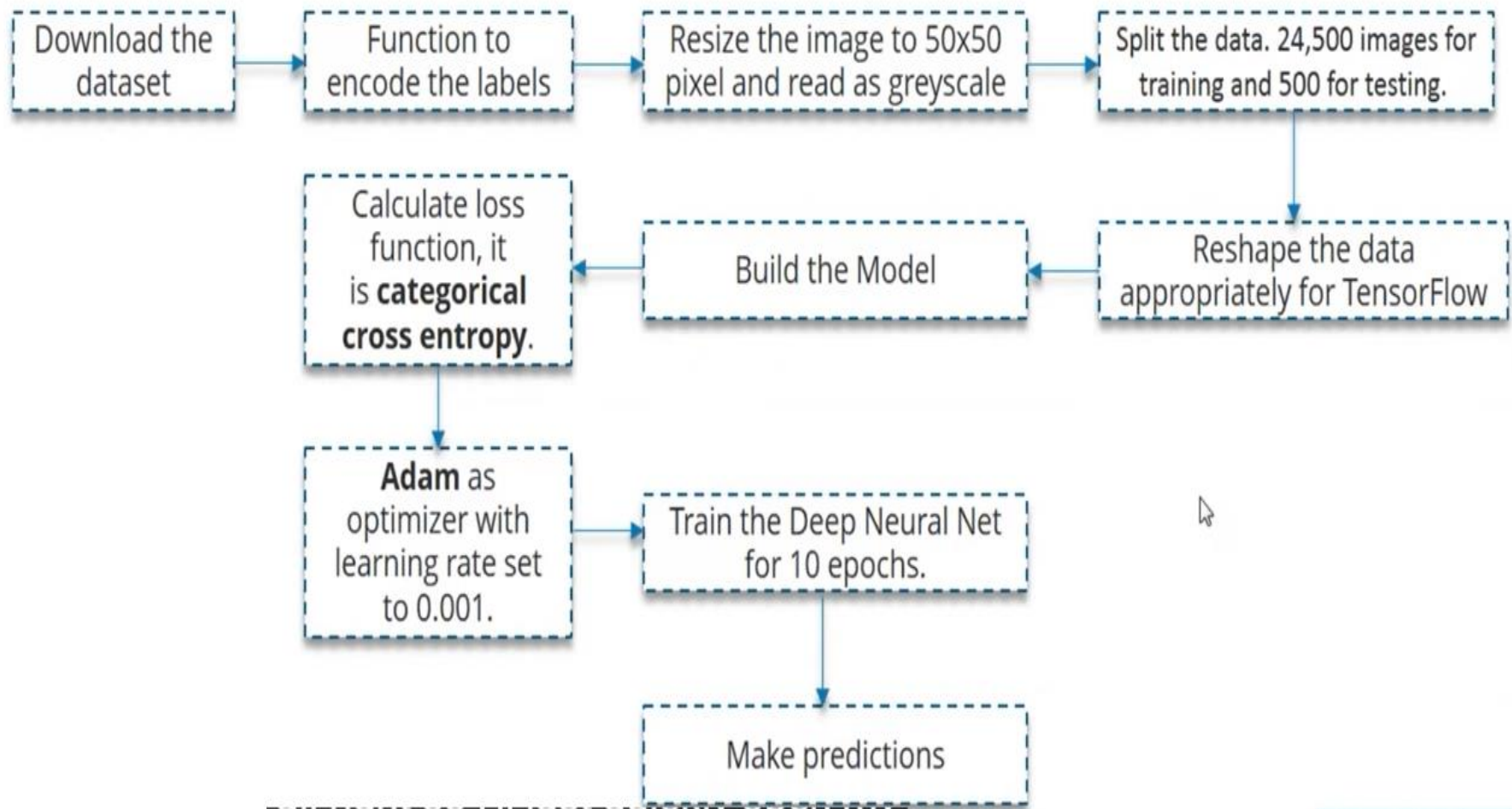
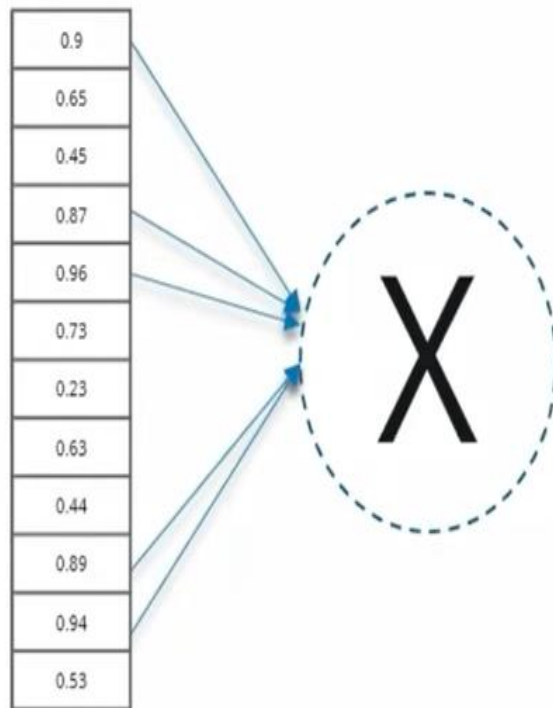


Implementing the Use-Case

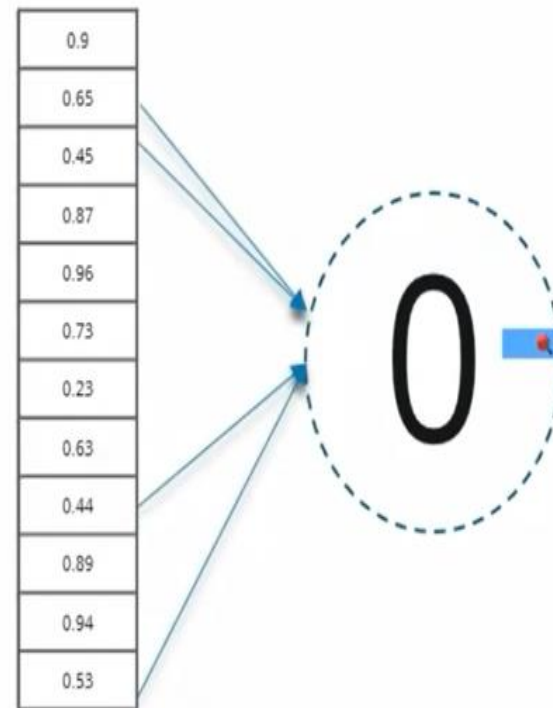


all right so I'm just quickly opening my
Python and I'll show you the code how it
looks

Result



.91



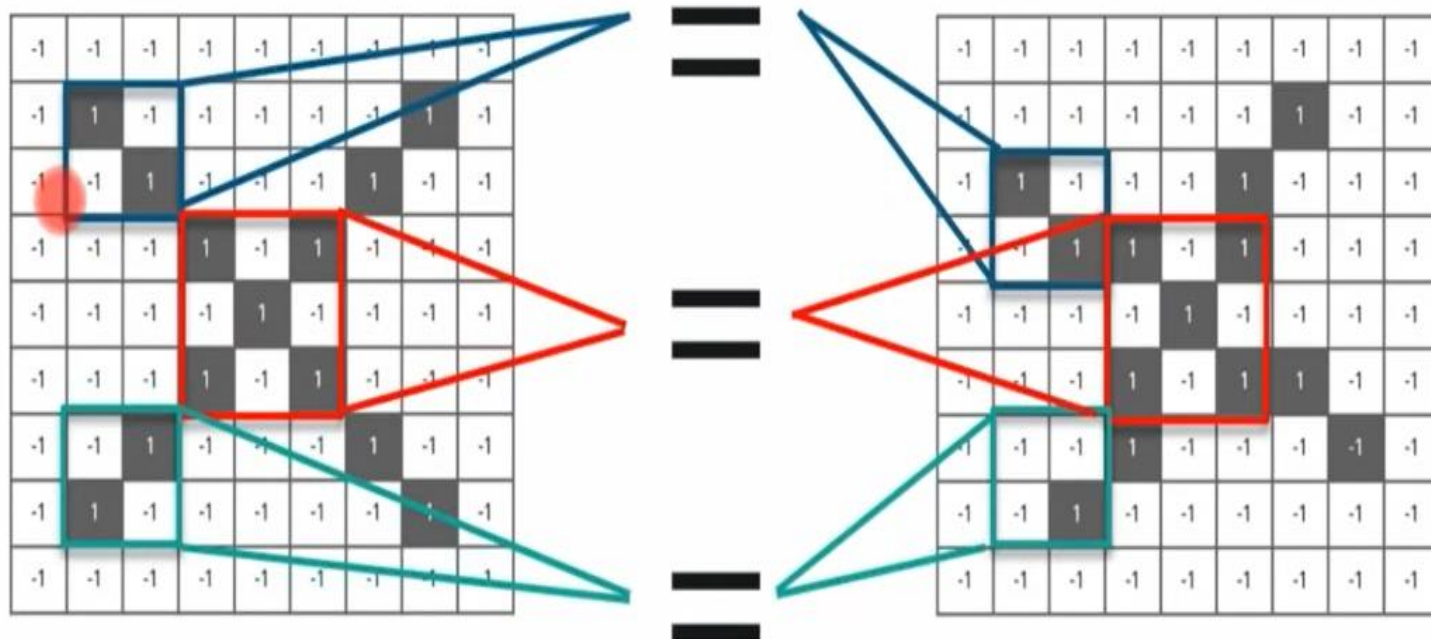
.51

The input image is classified as 'X'

divide that by 4 I got put 4.5 huh
so now we

How CNN Works?

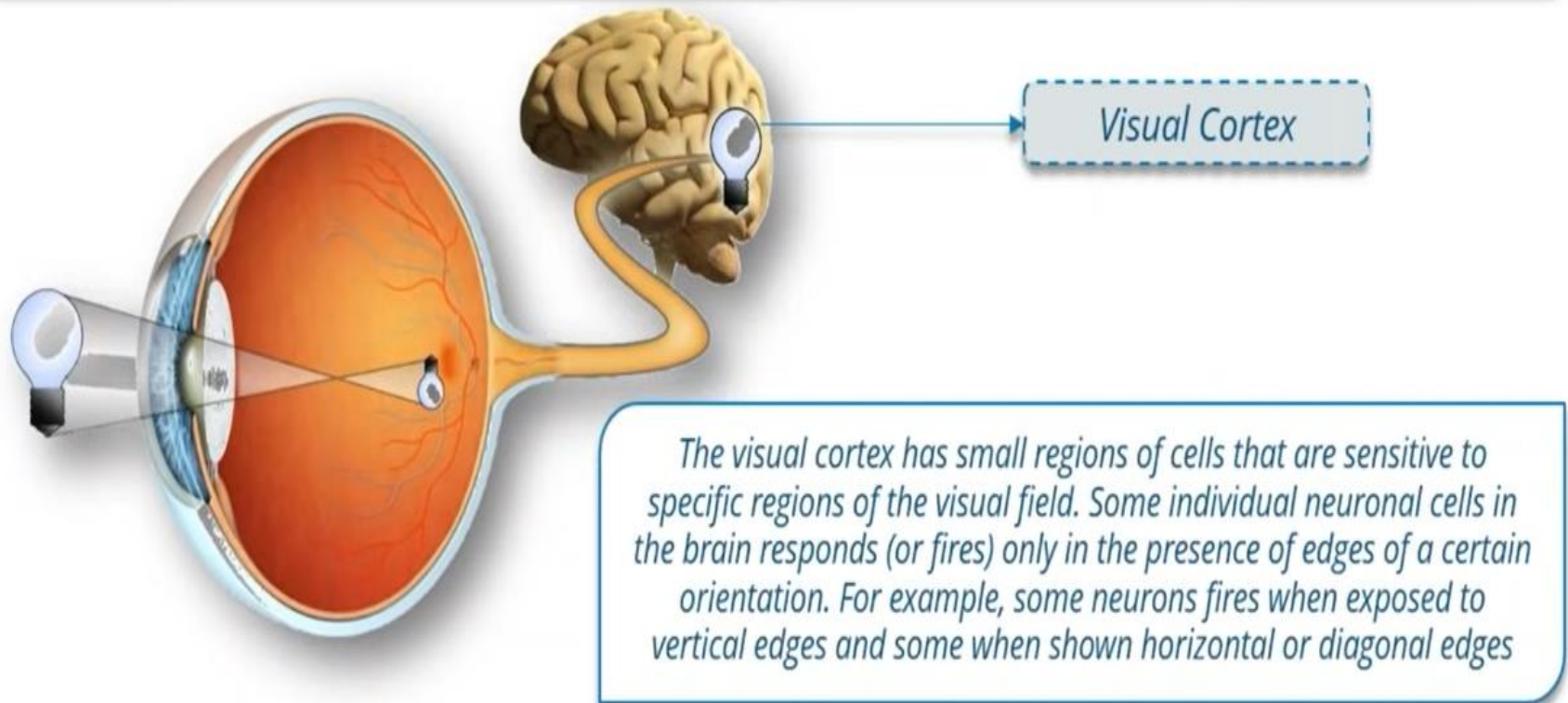
CNN compares the images piece by piece. The pieces that it looks for are called features. By finding rough feature matches, in roughly the same position in two images, CNN gets a lot better at seeing similarity than whole-image matching schemes.



features or filters so what we do by
finding a rough feature matches

What is Convolutional Neural Network?

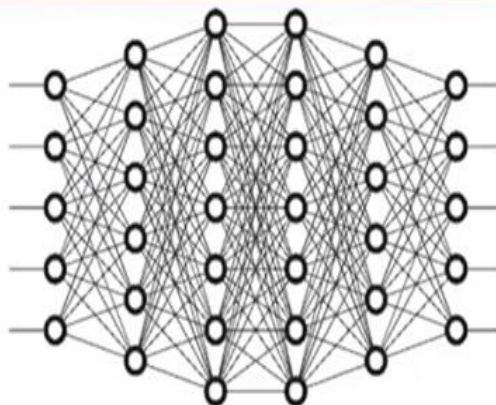
Convolutional Neural Network (CNN, or ConvNet) is a type of feed-forward artificial neural network in which the connectivity pattern between its neurons is inspired by the organization of the animal visual cortex.



neural networks which is inspired from
visual

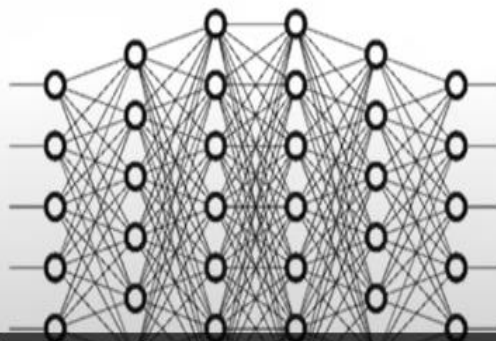
Why Not Fully Connected Networks

Image with
28 x 28 x 3
pixels



*Number of weights in
the first hidden layer
will be 2352*

Image with
200 x 200 x 3
pixels



*Number of weights in
the first hidden layer
will be 120,000*

overfitting so that's why we cannot use
fully connected Network for

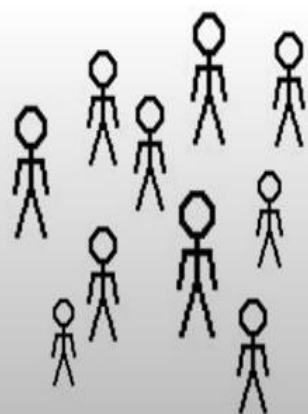
Clustering

- **Clustering:** grouping objects in clusters
 - *Similar* within cluster
 - *Dissimilar* between clusters
- **Example:** Grouping similar animal photos
 - No labels
 - No **right** or **wrong**
 - Plenty possible clusterings





Regression



- Relationship: **Height - Weight?**
- Linear?
- Predict: **Weight** → **Height**





Common ML Problems

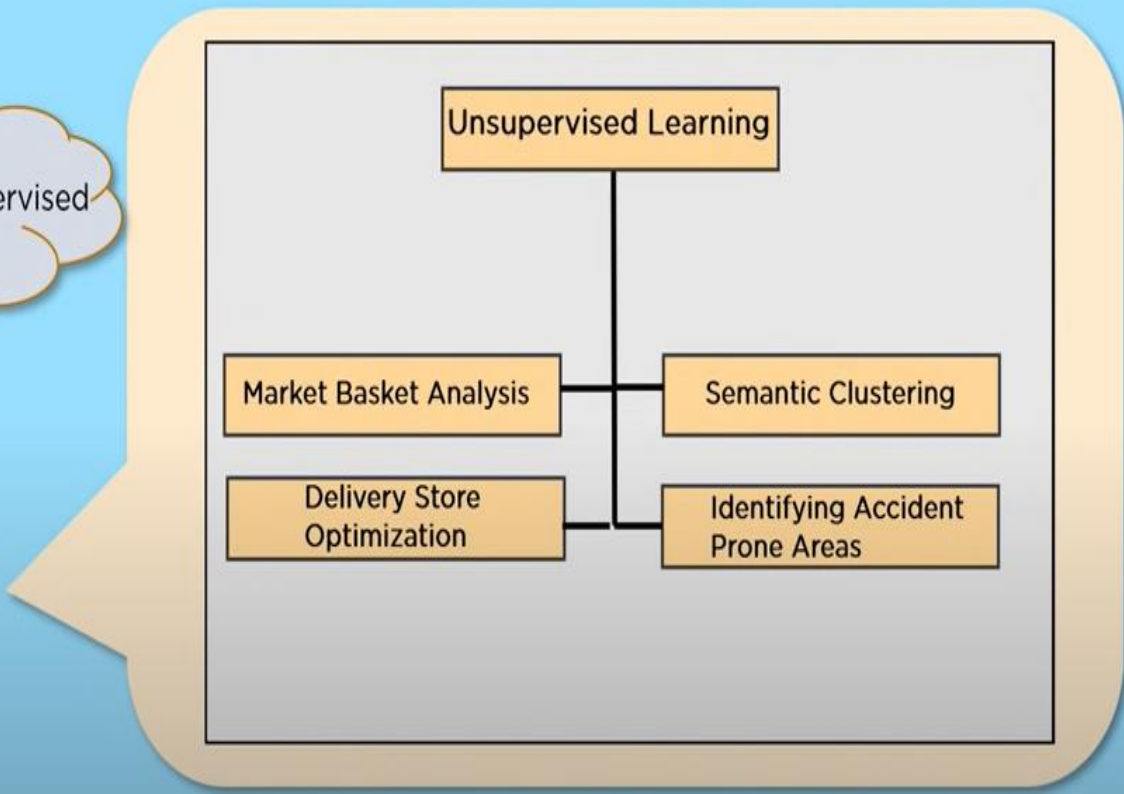
- **Classification**
- **Regression**
- **Clustering**





Applications of Unsupervised Learning

Areas where Unsupervised Learning is used



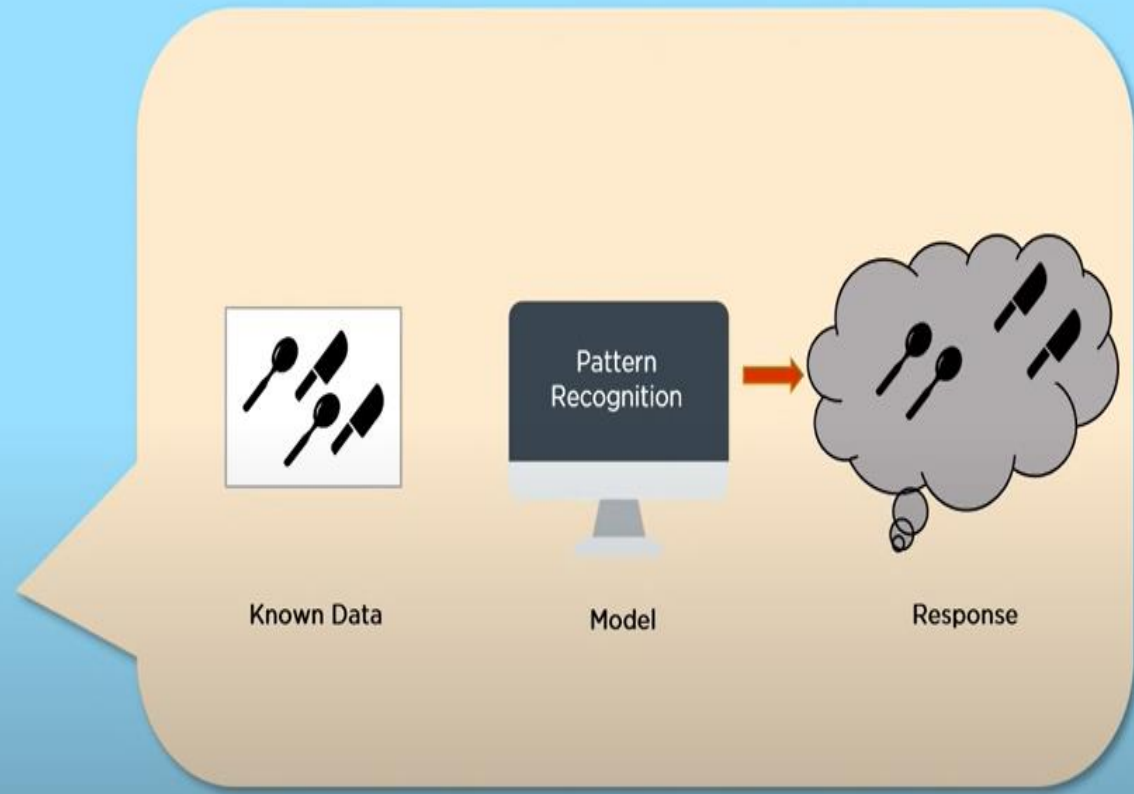


Watch later

Share

Info

Unsupervised Learning



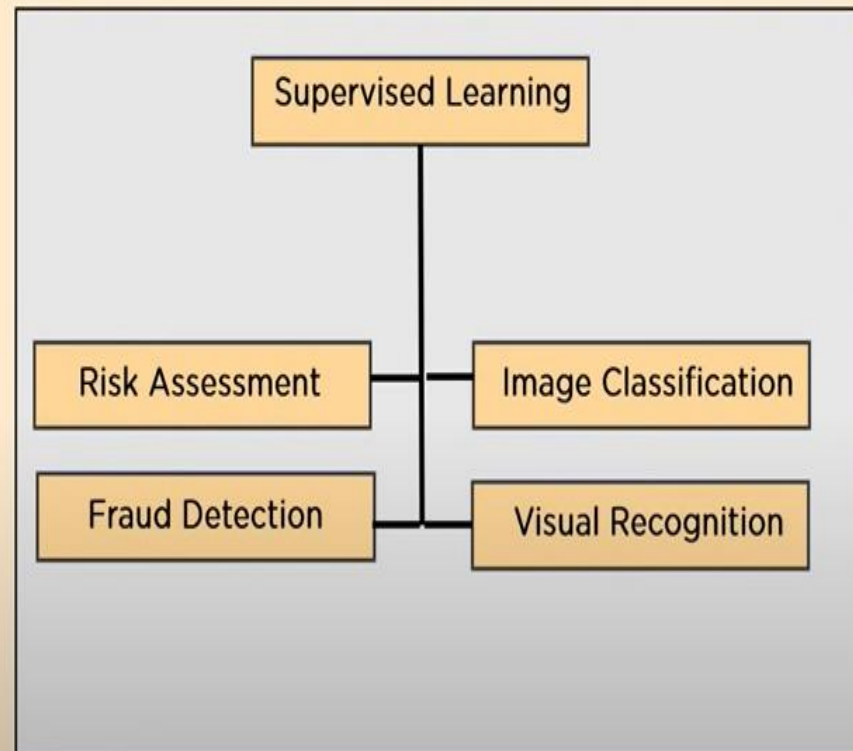


Applications of Supervised Learning

Areas where Supervised Learning is used



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5:13 / 9:40 • Applications of Supervised Learning



YouTube



Types of Machine Learning



Supervised Learning

Machine Learning

Unsupervised Learning