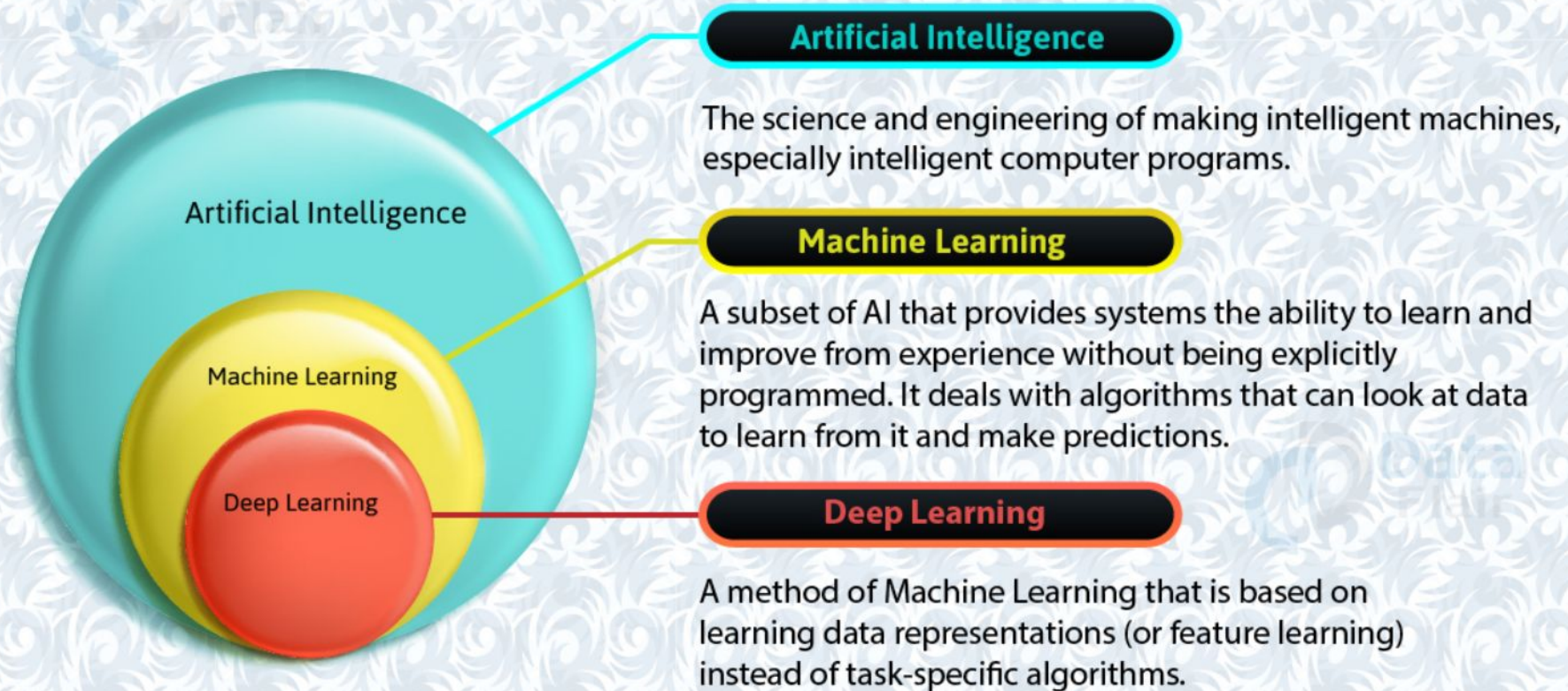
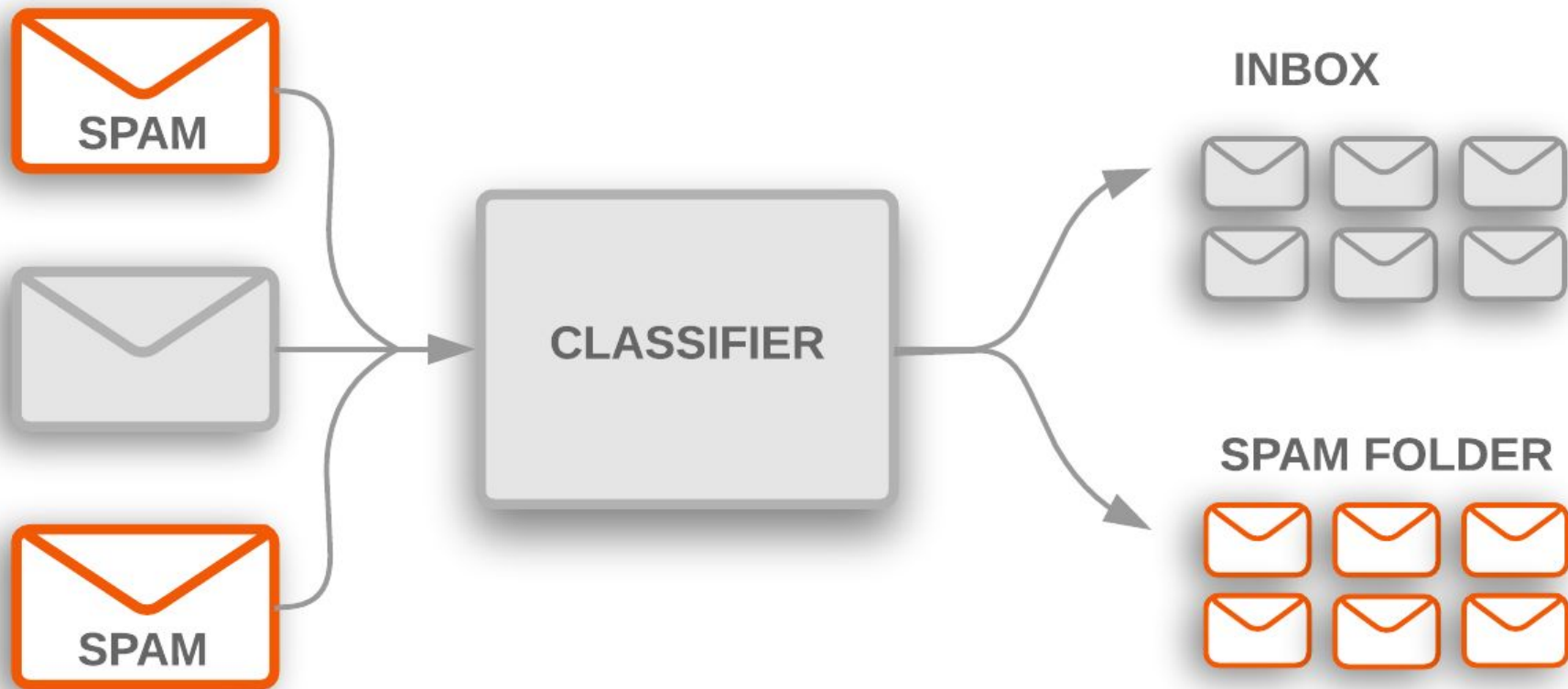


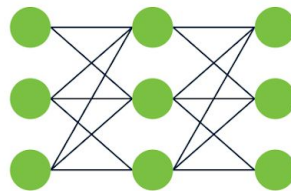
# What is Machine Learning?







# Machine Learning



Input

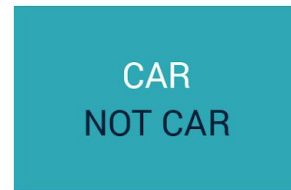
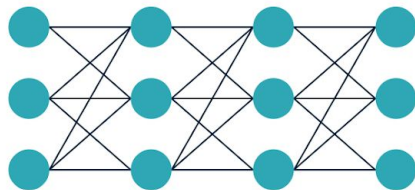
Feature extraction

Classification

Output

---

# Deep Learning

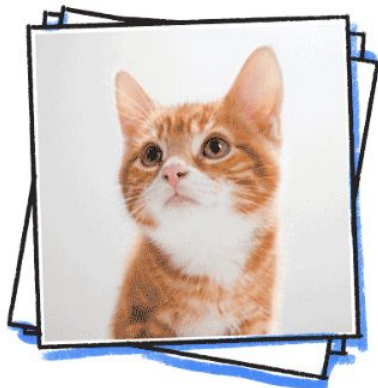


Input

Feature extraction + Classification

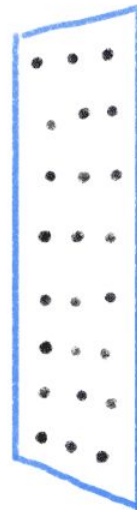
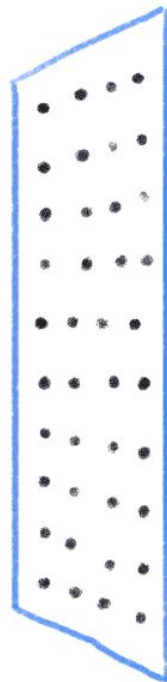
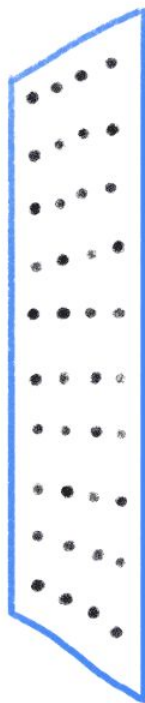
Output

CAT



(LAELED)  
PHOTOS

DOG

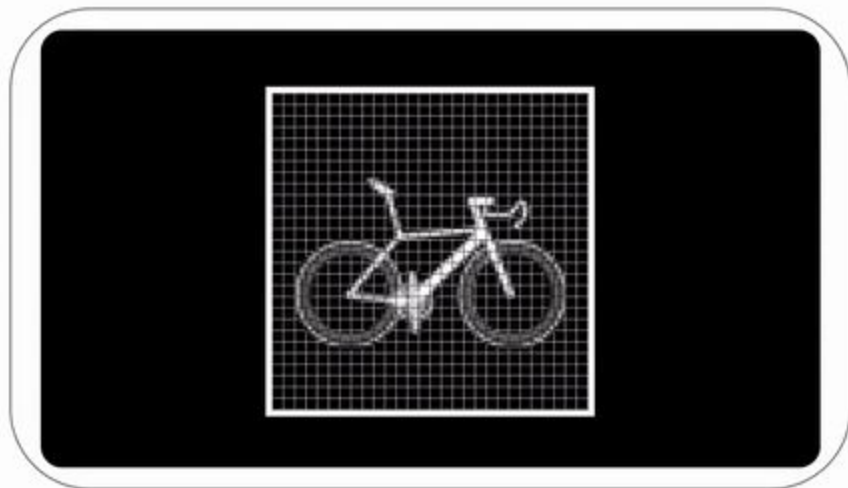


OUTPUT





## Deep Learning



Determining what objects are present in the data





# Sentiment Analysis



My experience  
so far has been  
fantastic!

POSITIVE



The product is  
ok I guess

NEUTRAL



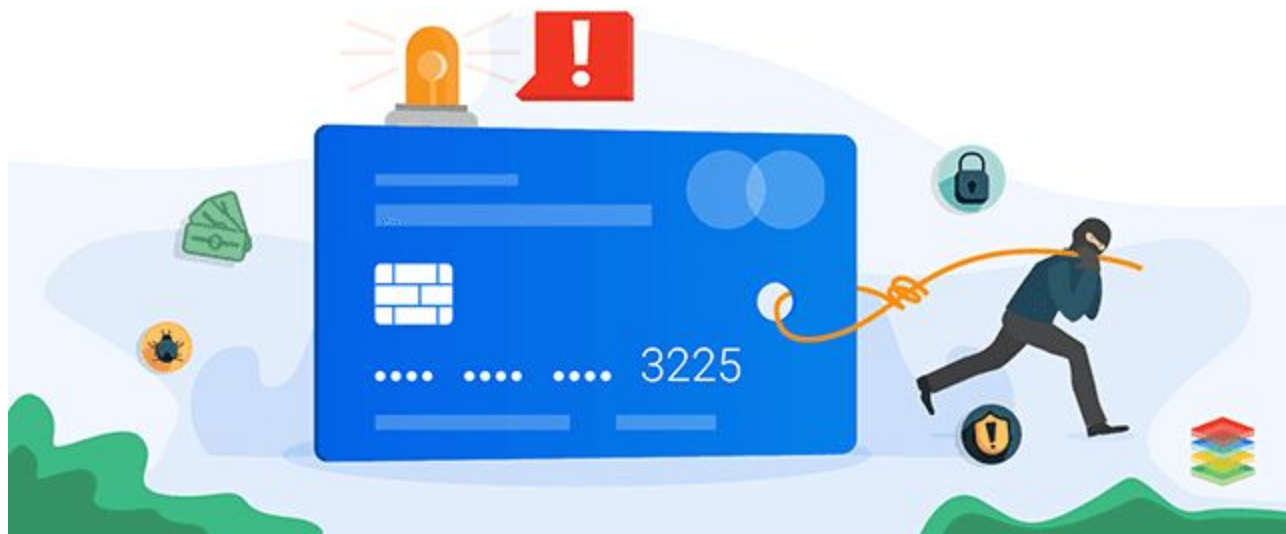
Your support team is  
useless

NEGATIVE



MonkeyLearn

# Credit Card Fraud Detection





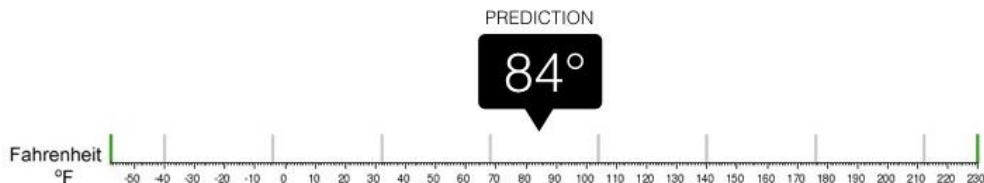
EPISODE 7

# HOUSE PRICE PREDICTION



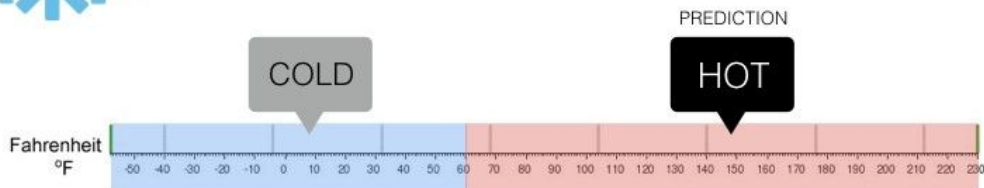
## Regression

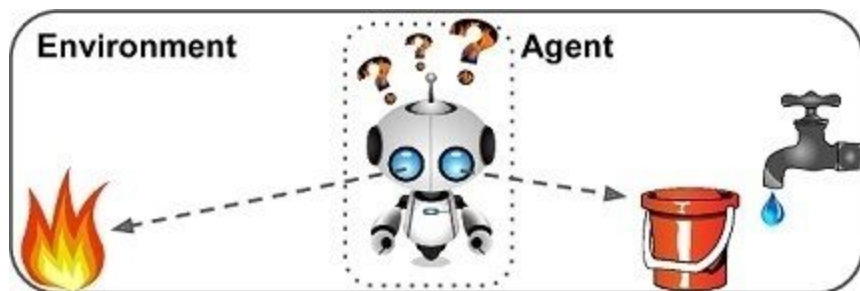
What is the temperature going to be tomorrow?



## Classification

Will it be Cold or Hot tomorrow?





1 Observe

2 Select action using policy



3 Action!

4 Get reward or penalty



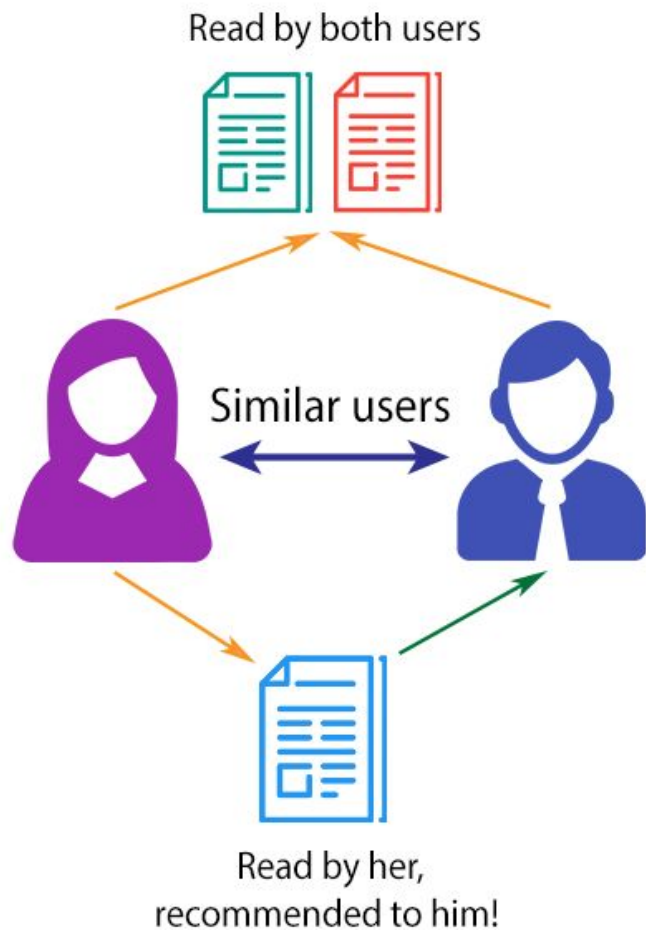
5 Update policy (learning step)

6 Iterate until an optimal policy is found

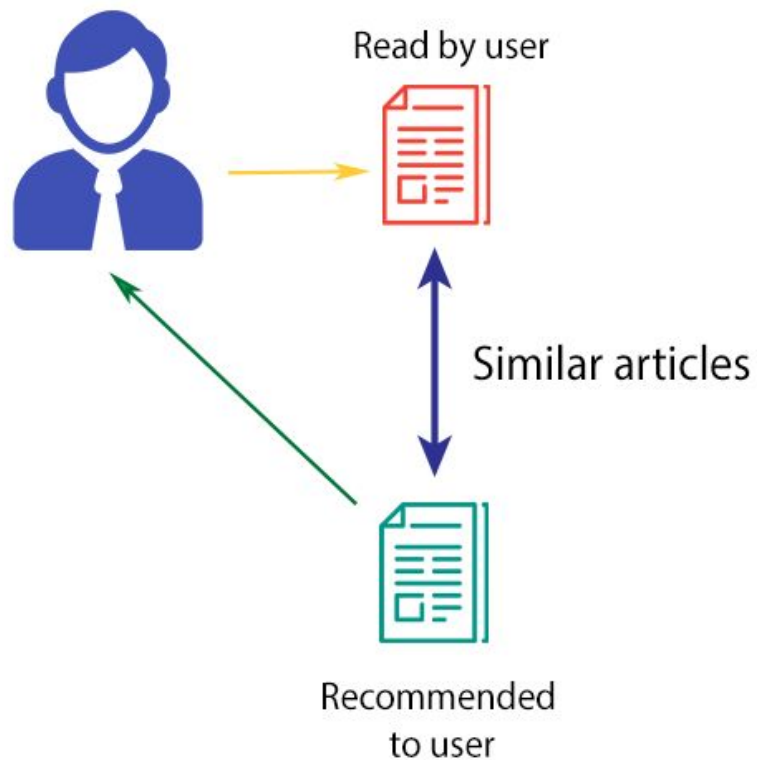




## COLLABORATIVE FILTERING



## CONTENT-BASED FILTERING



## Collaborative Filtering – Item Based



Image ref : <https://www.linkedin.com/pulse/collaborative-filtering-apache-spark-juancarlos-olamendy-turruellas/>

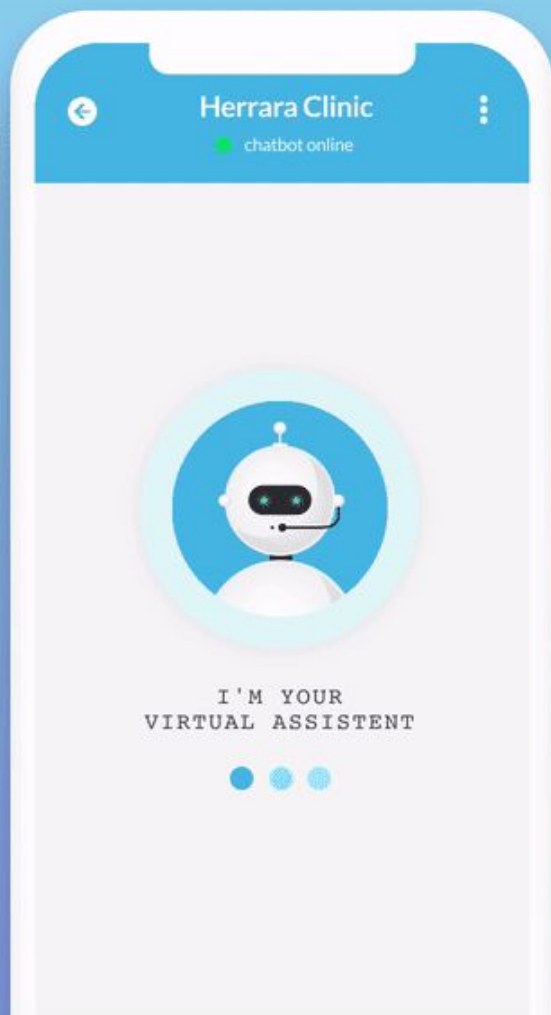


**NLP**

**Natural language  
processing**







London is the capital and most populous city of England and the United Kingdom. Standing on the River Thames in the south east of the island of Great Britain, London has been a major settlement for two millennia. It was founded by the Romans, who named it Londinium. London's ancient core, the City of London, largely retains its 1.12-square-mile (2.9 km<sup>2</sup>) medieval boundaries.

Chat



Bot






PUBLICITE

é vote la  
élai de réflexion 6107


Vivarte dément  
chèque de 3435

é par un groupe 2646

FRENCH

 Les travaux étaient nécessaires

ENGLISH

 The work needed

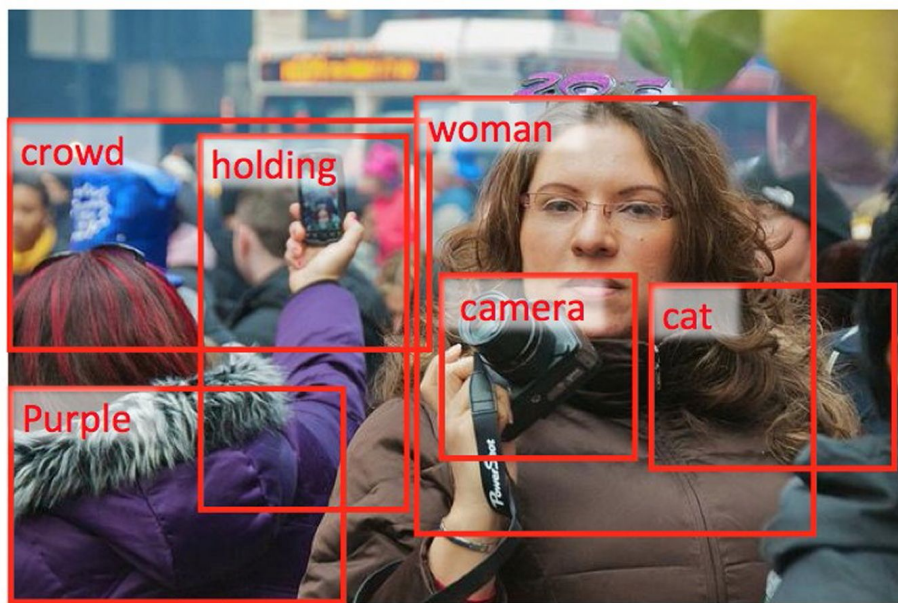
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# Computer vision



1. detect  
words

woman, crowd, cat,  
camera, holding, purple

2. generate  
sentences

A purple camera with a woman.  
A woman holding a camera in a crowd.  
...  
A woman holding a cat.

3. re-rank  
sentences

#1 A woman holding a  
camera in a crowd.



