Unsupervised Learning
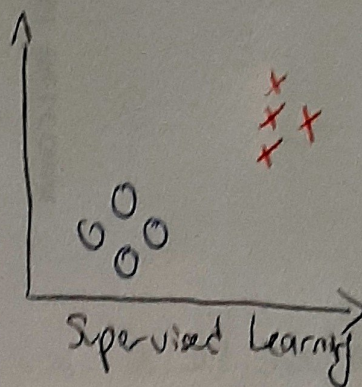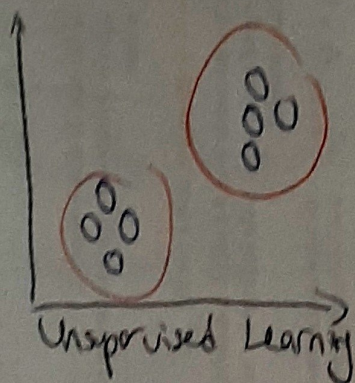

Supervised Learning

→ This example:
    - 2 different cluster
Clustering algorithm

Google news → Tens of thousands of new stories
                    and
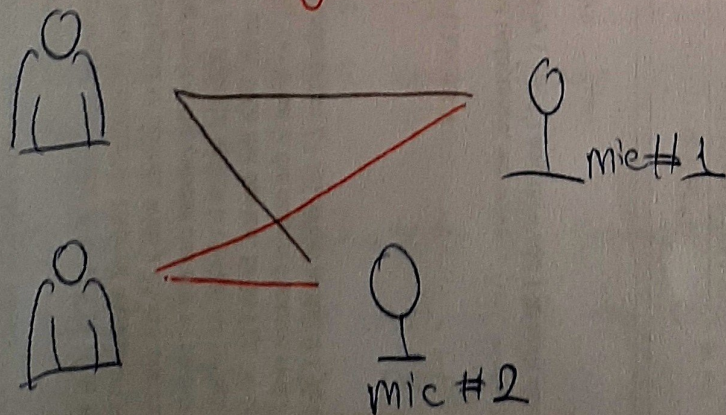   automatically cluster them together

exp:
→ organize computing clusters
→ Social network analysis
→ Market segmentation
→ Astronomical data analysis

Cocktail party Problem (Kokteyl Partisi Sorunu)

mic #1

mic #2

each mic records a different
combination of these two
speakers voices

Details was explained in Youtube Videos.

①

Octave → free open source software → first prototype
MATLAB

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2 side kullanılabilir

Octave → cok hızlı

$$[W, s, v] = svd((repmat(sum(x.^* x, 1), size(x,1), 1).^* x)^* x');$$

$$\downarrow$$

singular
value
decomposition
(tekil değer ayrışımı)

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

① ☒ Given email labeled as spam/not spam, learn a spam filter.

② ☒ Given a set of news articles found on the web, group them
into set of articles about the same story

③ ☒ Given a database of customer data, automatically discover
market segments and group customers into different market
segments.

④ ☒ Given a dataset of patients diagnosed as either having
diabetes or not, learn to classify new patients as having
diabetes or not.

① → Supervised learning algorithm
② → Unsupervised " "
③ → " " " "
④ → Supervised " "

②