Text Mining 2: Sentiment

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Outline

- A Few notes
- Sentiment Analysis landscape
- Hands on in python
- Another example of how ML applications still apply
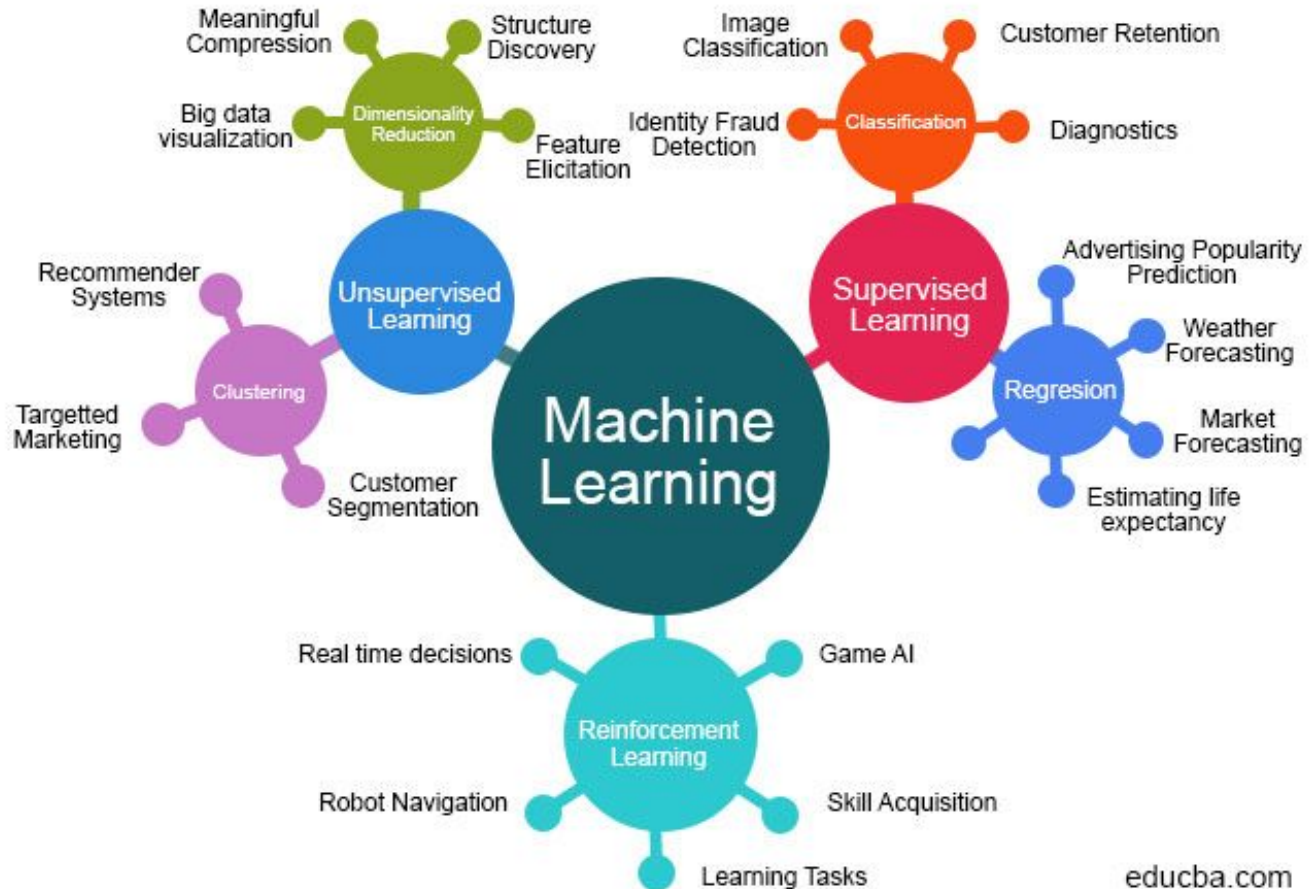
A few class notes

- **Team deliverable 2 via Assignments end-of-day Wednesday 3/3**
- Assignment 2
    - You all have a lot going on in these next two weeks
    - It's now **optional**
    - If you submit, I will take the average of your two grades
    - If you elect to pass, your grade will be taken from the first assignment
    - If you want feedback to in order to practice, you can submit for review. In this case it's not graded, but I will provide you feedback.
- Team Presentations
    - I will be posting a signup form
    - Two sessions, 10 teams each. Your team will need to stay for the entire session, and think of as a class session
    - You only need to attend 1 class session, the one you are presenting, but if you want to attend both, that works too
    - First-come, first-serve on time slots. I wish there was a better way to handle this.

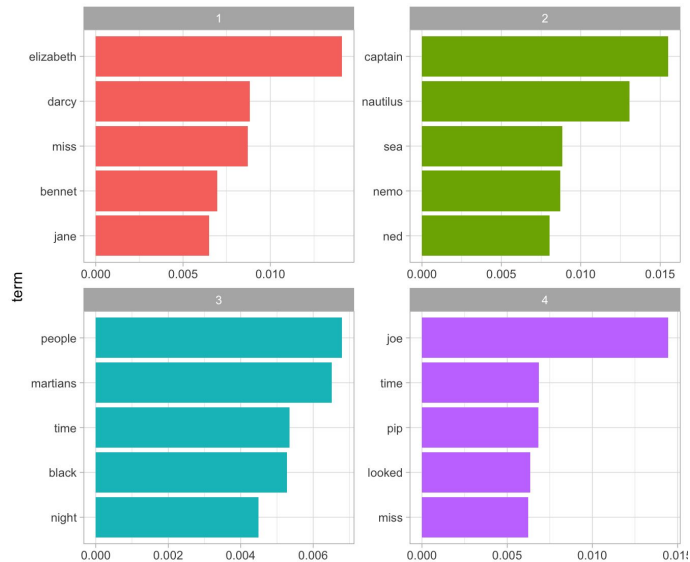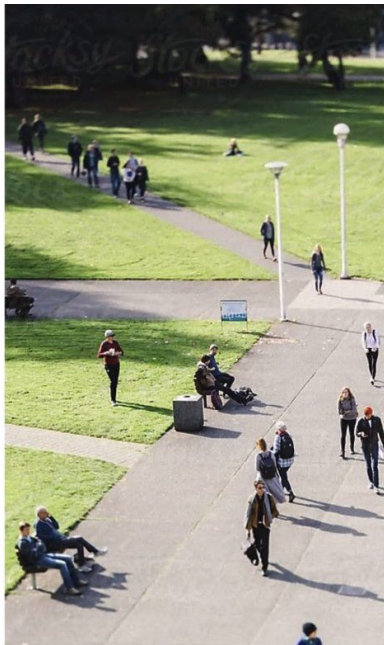Let's set the landscape again

Machine Learning Algorithms

Machine Learning

Unsupervised Learning
- Dimensionality Reduction
  - Meaningful Compression
  - Structure Discovery
  - Big data visualization
  - Feature Elicitation
- Clustering
  - Recommender Systems
  - Targetted Marketing
  - Customer Segmentation

Supervised Learning
- Classification
  - Image Classification
  - Customer Retention
  - Identity Fraud Detection
  - Diagnostics
- Regresion
  - Advertising Popularity Prediction
  - Weather Forecasting
  - Market Forecasting
  - Estimating life expectancy

Reinforcement Learning
- Real time decisions
- Game AI
- Robot Navigation
- Skill Acquisition
- Learning Tasks

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Sentiment Analysis

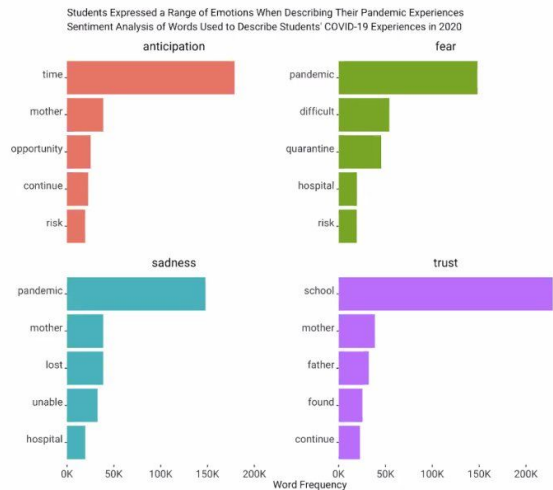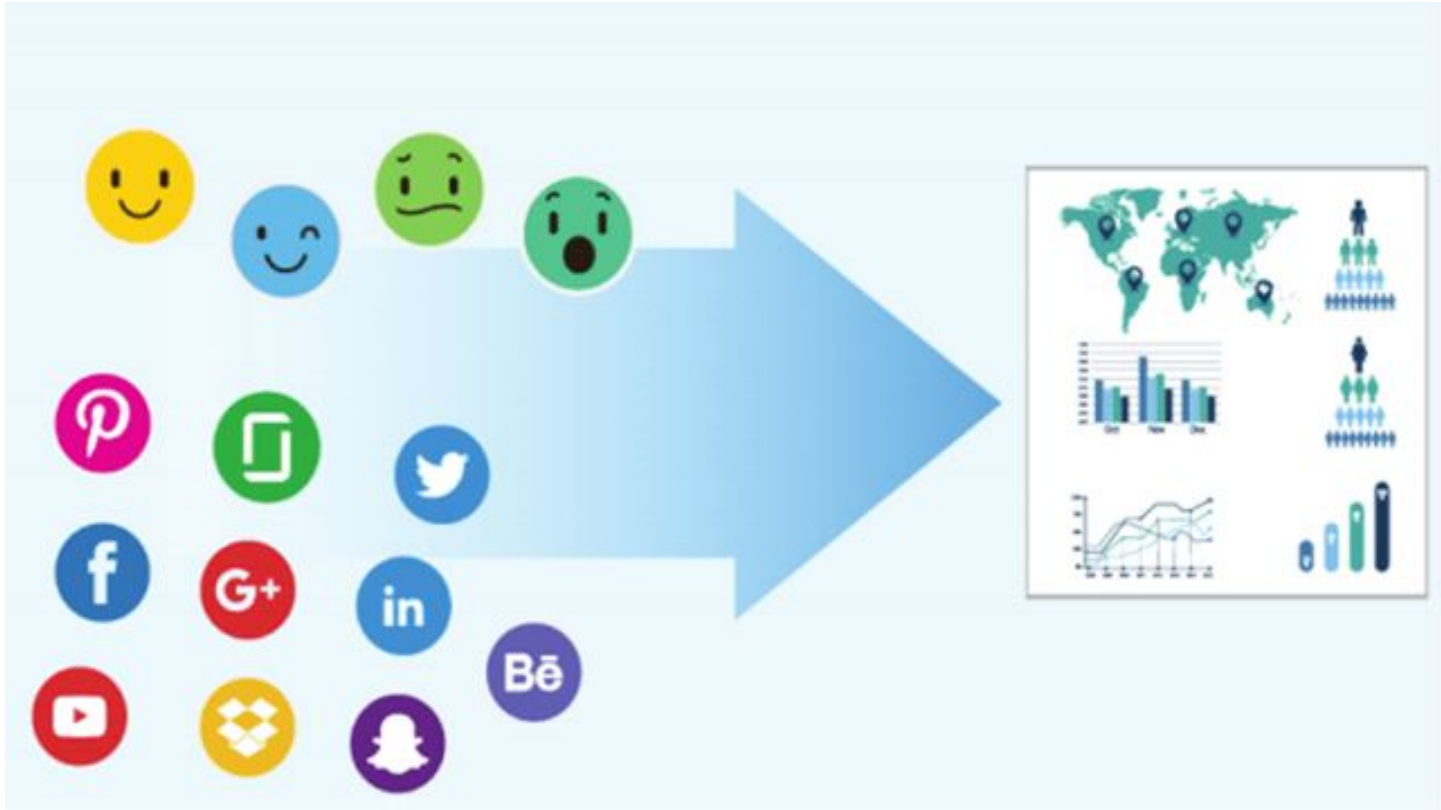SENTIMENT ANALYSIS

Discovering people opinions, emotions and feelings about a product or service
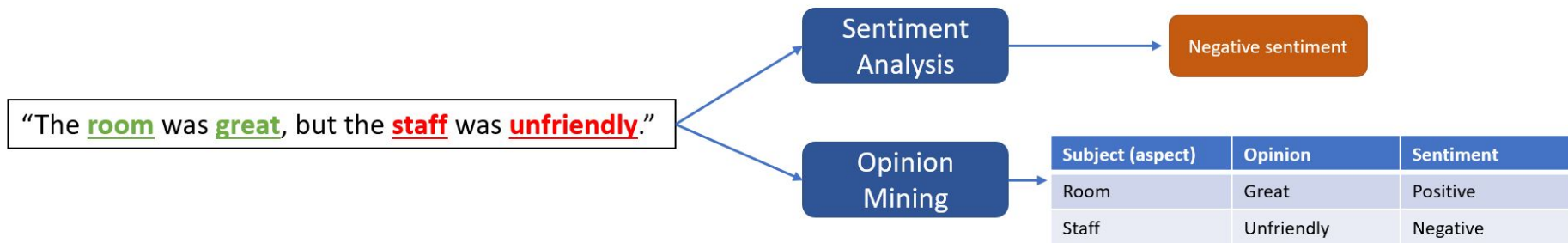
This just happened! Why copy/paste code is bad

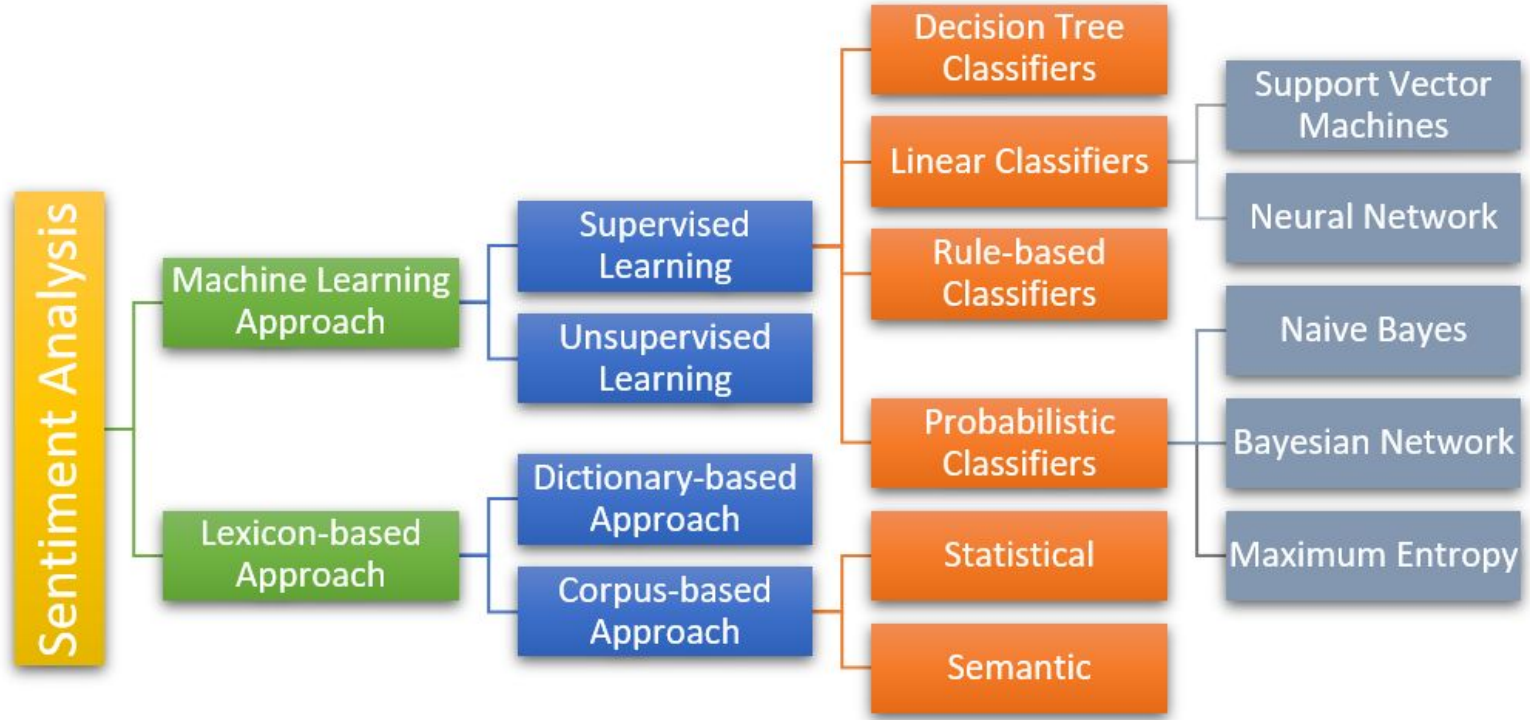# Ultimately, what are we trying to do?

An example of breaking down text

"The **room** was **great**, but the **staff** was **unfriendly**."

Sentiment Analysis → Negative sentiment

Opinion Mining →

Subject (aspect)	Opinion	Sentiment
Room	Great	Positive
Staff	Unfriendly	Negative

Various approaches

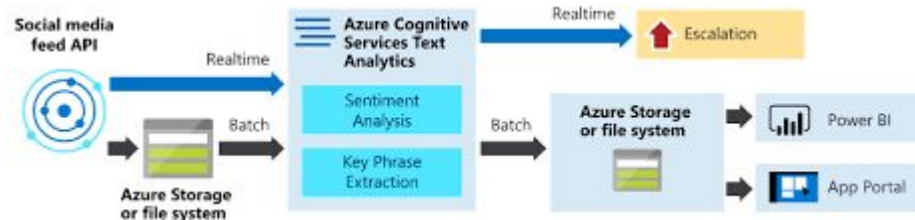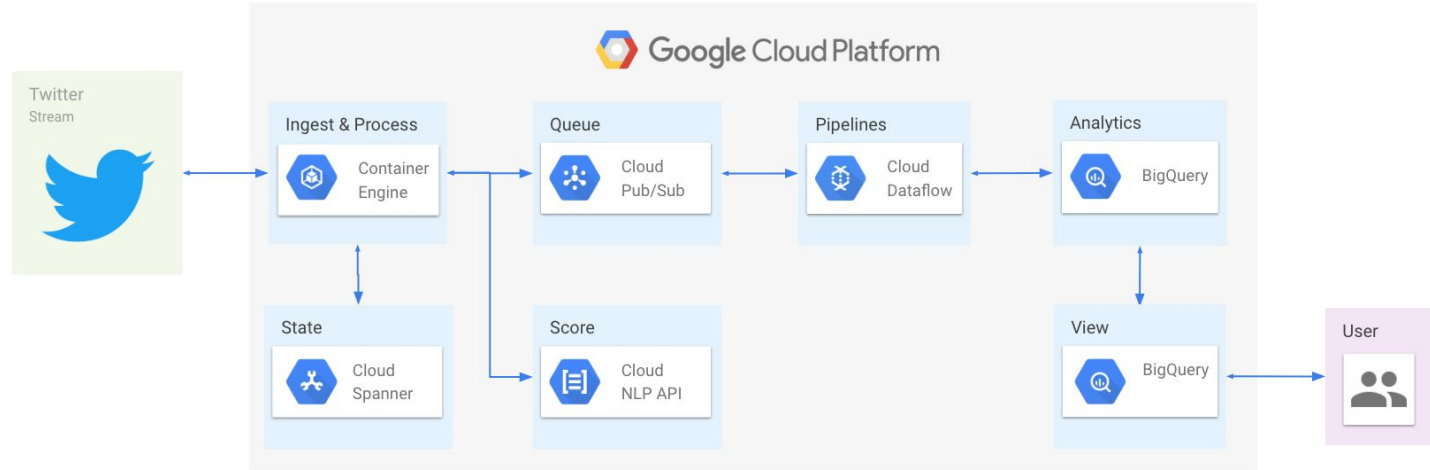# $$$$ Software (Just one example)
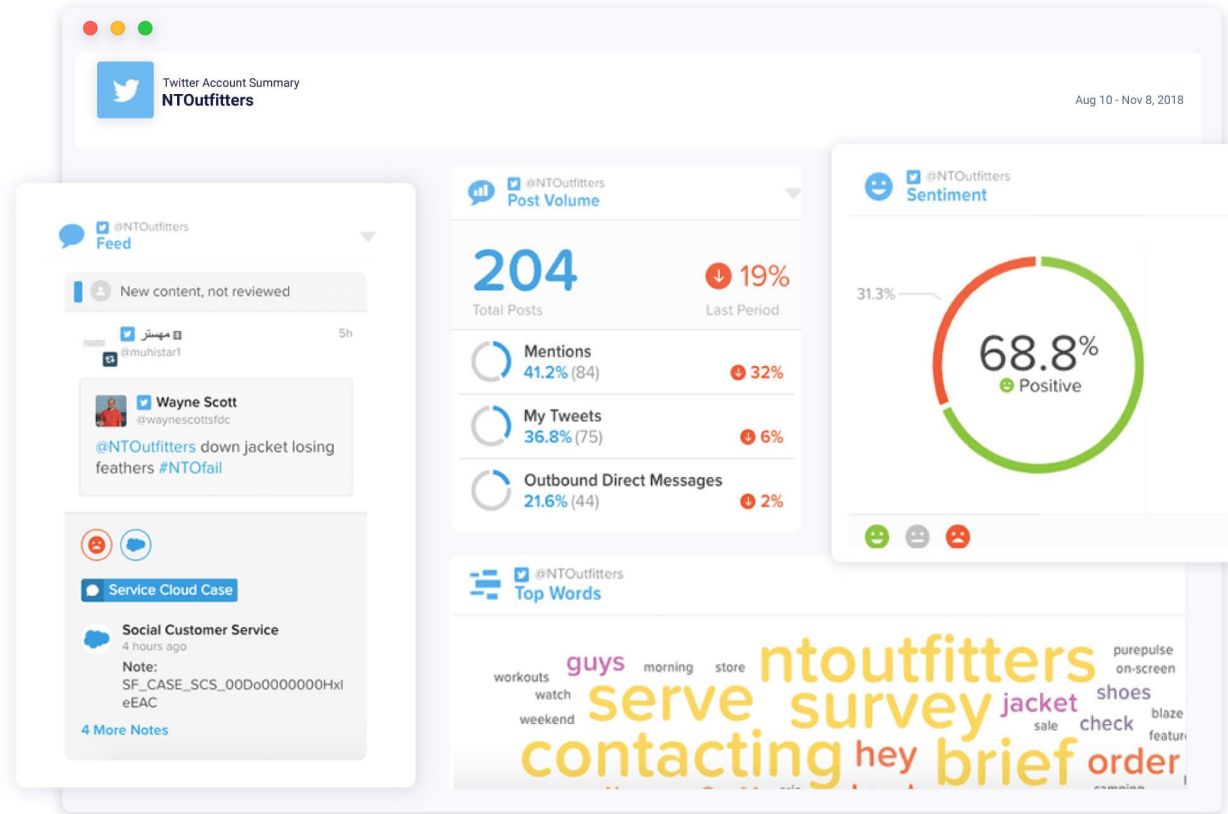
Cloud Services/Tools/API (just two below)

Text Analytics: Sentiment