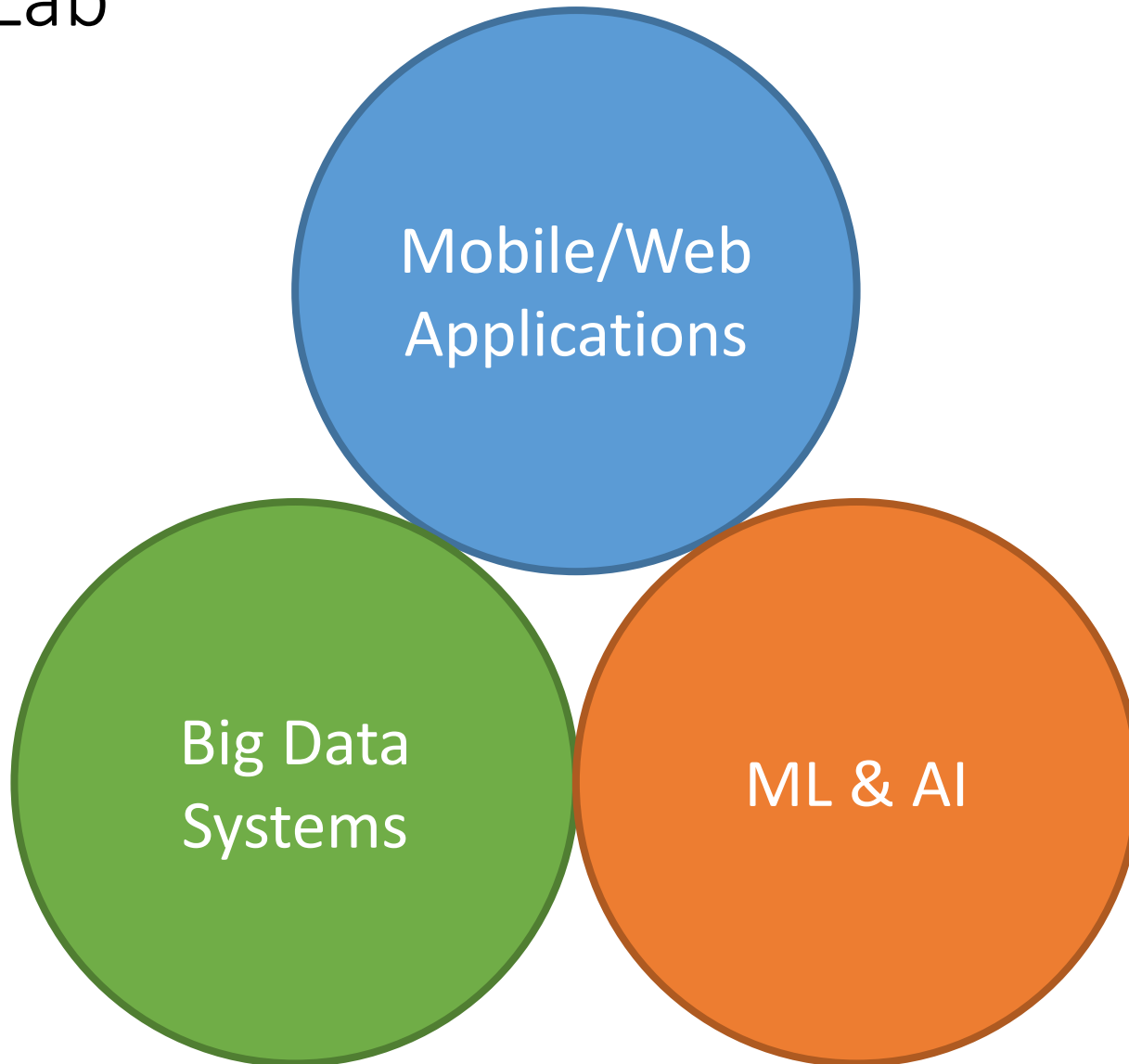


# Research Topics

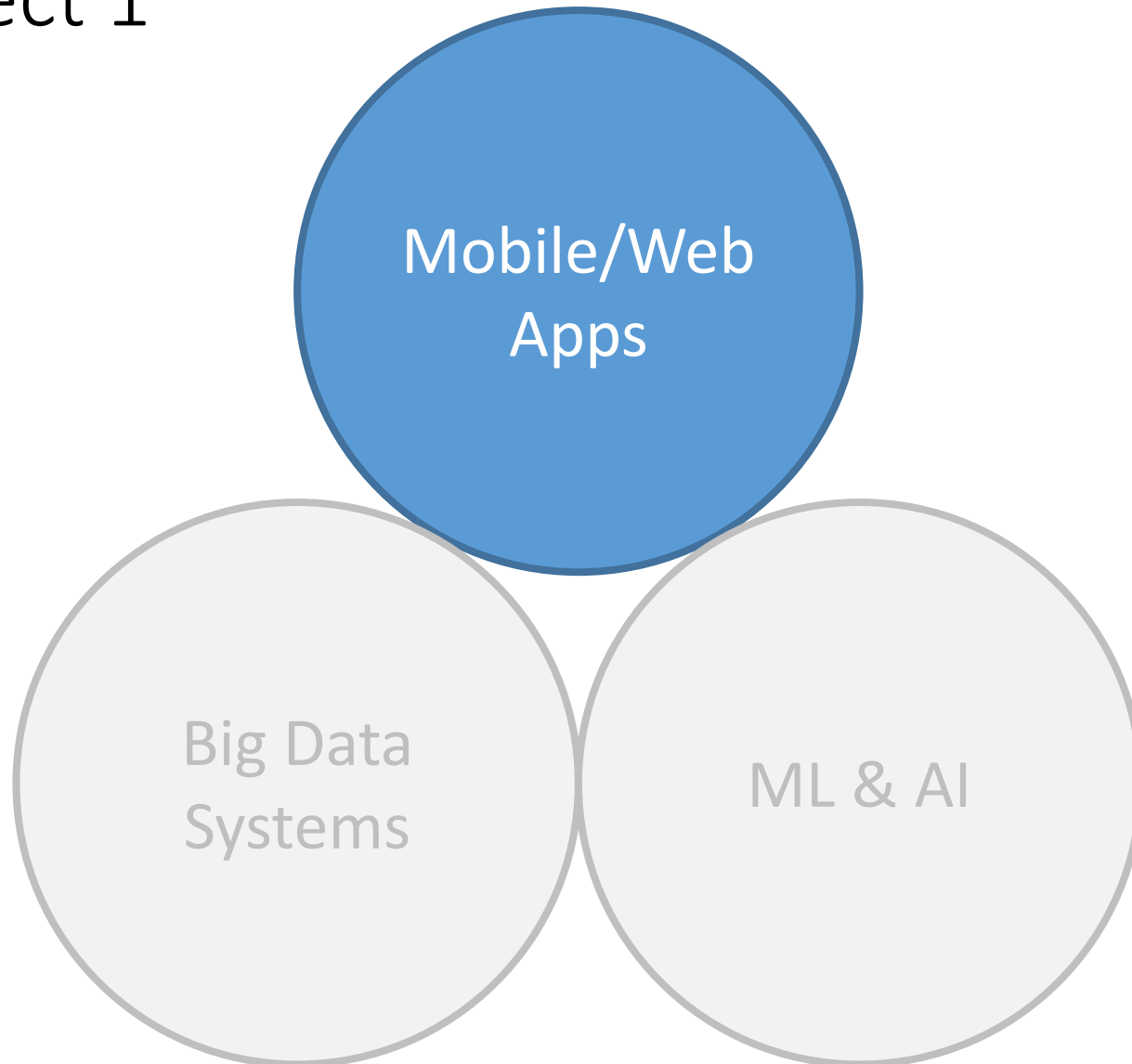
Shan-Hung Wu

CS, NTHU

# DataLab



# Subject 1



Sell It To Me!



# GUINNESS GUIDE TO OYSTERS



**CAPE CODS** : An oyster of superb flavor. Its chief enemy is the starfish, which wraps its arms about the oyster and forces the valves open with its feet. The battle lasts for hours, until the starfish is rewarded with a good meal, but alas, no Guinness.



**NEW ORLEANS** : This was Jean Lafitte's oyster, which is now used in Oysters Rockefeller. Valuable pearls are never found in *ostrea virginica*, the family to which East Coast oysters belong.



**GREENPORT** : These oysters have a salty flavor all their own. They were a smash hit with the whalers who shipped out of Greenport in olden days. Oysters contain iron, copper, iodine, calcium, magnesium, phosphorus, Vitamin A, thiamine, riboflavin and niacin. The Emperor Tiberius practically lived on oysters.



**OYSTER BAY** : Oyster Bays are mild and heavy-shelled. It is said that oysters yawn at night. Monkeys know this and arm themselves with small stones. They watch for an oyster to yawn and then pop the stone in between the shells. "Thus the oyster is exposed to the greed of the monkeys."



**TANGIER** : This is one of the sweetest and most succulent oysters. It comes from the Eastern Shore of Maryland. Pecahontas fed Tangiers to Captain John Smith, with famous results. Oysters go down best with Guinness, which has long been regarded as the perfect complement for all sea-food.



**BLUEPOINTS** : These delicious little oysters from Great South Bay somewhat resemble the famous English 'natives' of which Disraeli wrote: "I dined or rather supped at the Carlton . . . off oysters, Guinness and broiled bones, and got to bed at half past twelve. Thus ended the most remarkable day hitherto of my life."



**LYNNHAVEN** : These gigantic oysters were Diamond Jim Brady's favorites. More fishermen are employed catching oysters than any other sea food. The Damariscotta mound in Maine contains three million bushels of oyster shells, piled there by prehistoric Bradys.



**DELAWARE BAY** : This was William Penn's favorite oyster. Only 15% of oysters are eaten on the half-shell. The rest find their way into stews, or end their days in a blaze of glory as "Angels on Horseback." One oyster was distinctly heard to whistle.



**CHINCOTEAGUES** : Many epicures regard Chincoteagues as the supreme aristocrats of the oyster tribe, but some West Coast gourmets prefer the Olympia oyster, which is no bigger than your thumbnail. Both Chincoteagues and Olympias are at their best with Guinness.

**ALL OYSTERS** taste their best when washed down with drafts of Guinness—what Professor Saintsbury in "Notes On A Cellar-Book" called "that noble liquor—the comeliest of black malts." Most of the malt used in brewing Guinness comes from the fertile farms of Southern Ireland, and the yeast is descended from the yeast used by Guinness in Dublin one hundred and ninety years ago.



Guinness® Stout brewed by Arthur Guinness Son & Co., Inc., Long Island City, N.Y. ©1951

## Native Ads

## Based on

## *Deep Learning*

# Problem

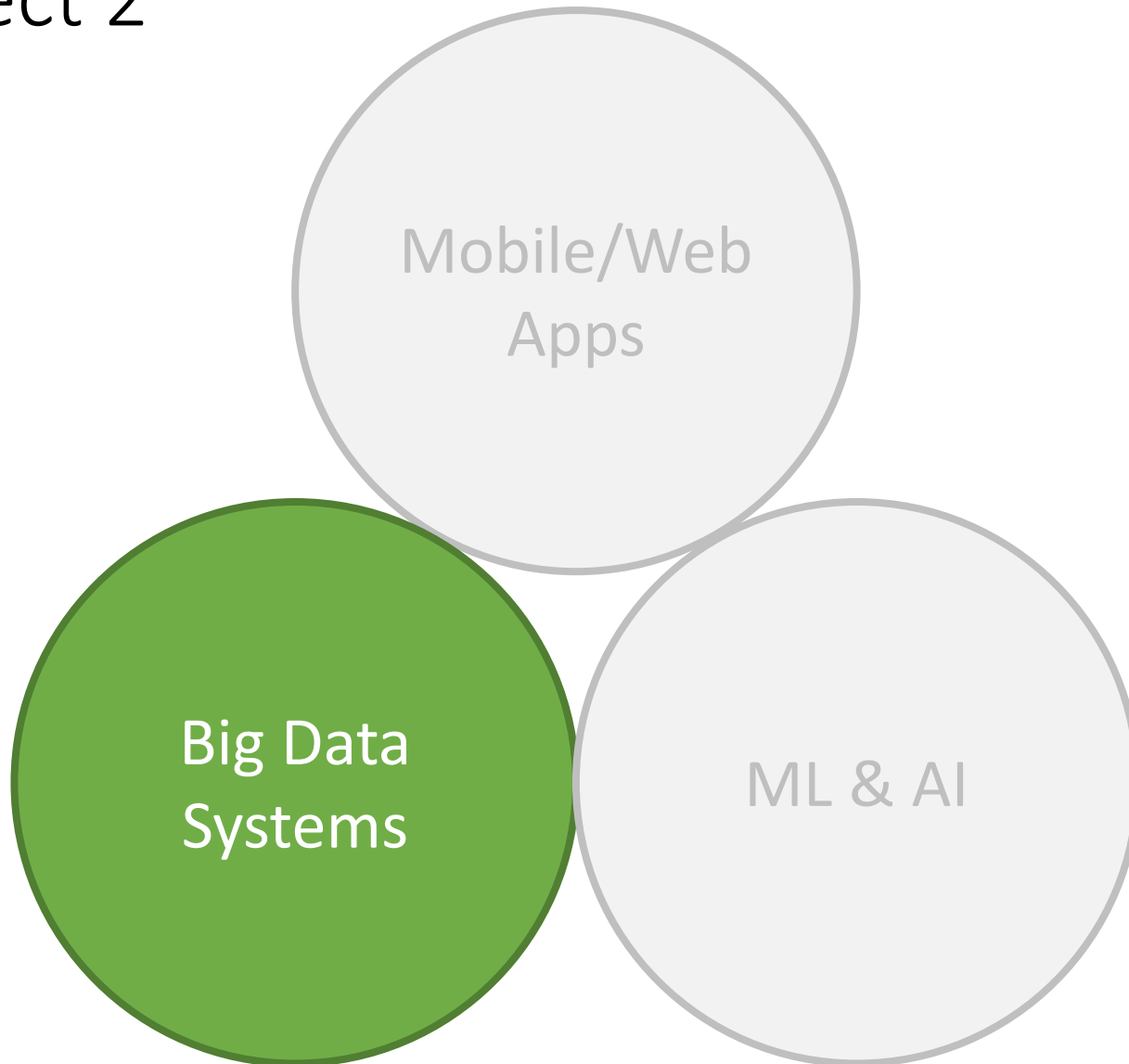
- Input:

- An ad
- An article

- Output:

- A sentence (selling words) to be add into the article
- Where to add the sentence

# Subject 2



Our **key** to competition:



**BIG DATA**



**VOLUME**  
DATA SIZE

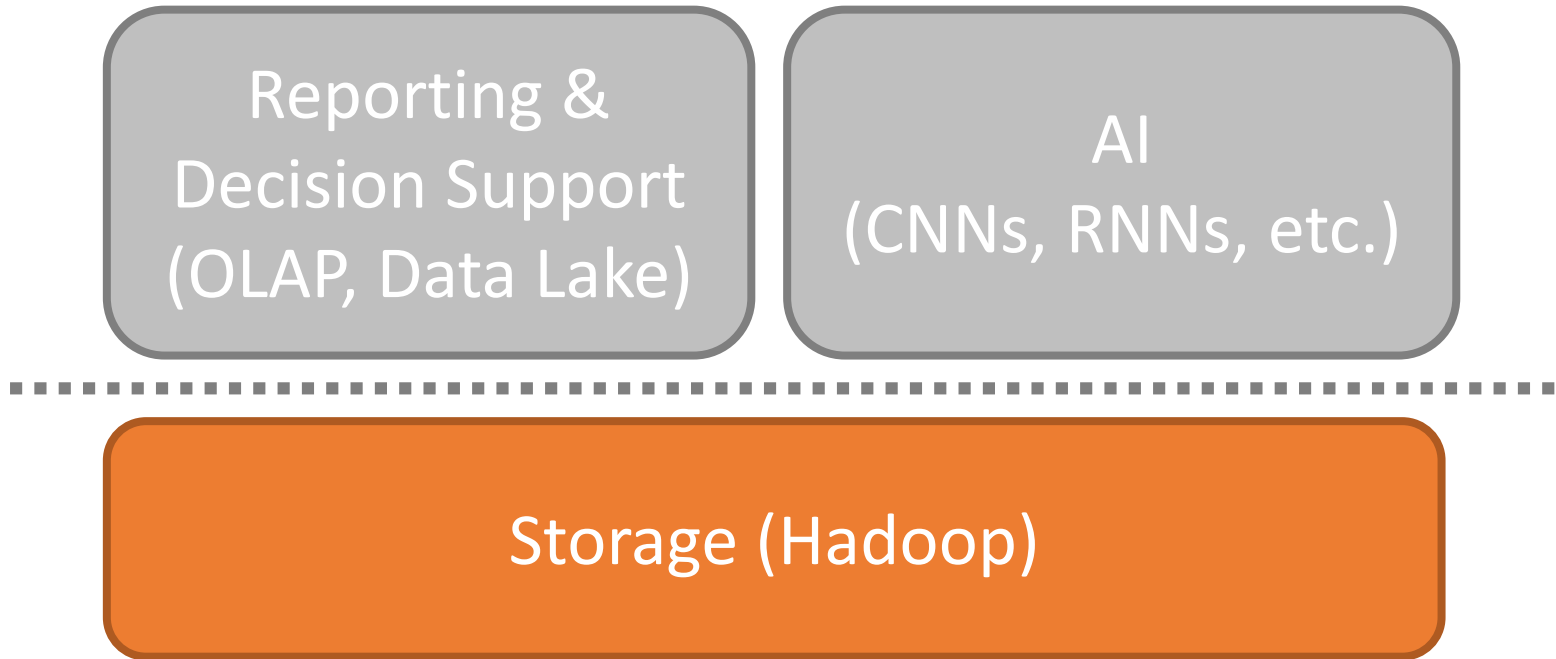
**VELOCITY**  
SPEED OF CHANGE

**VARIETY**  
DIFFERENT FORMS  
OF DATA SOURCES

**VERACITY**  
UNCERTAINTY OF  
DATA



# What's the Problem?



- Different users access data in different ways
- Learned knowledge is **not** automatically transferable

# Our Proposal

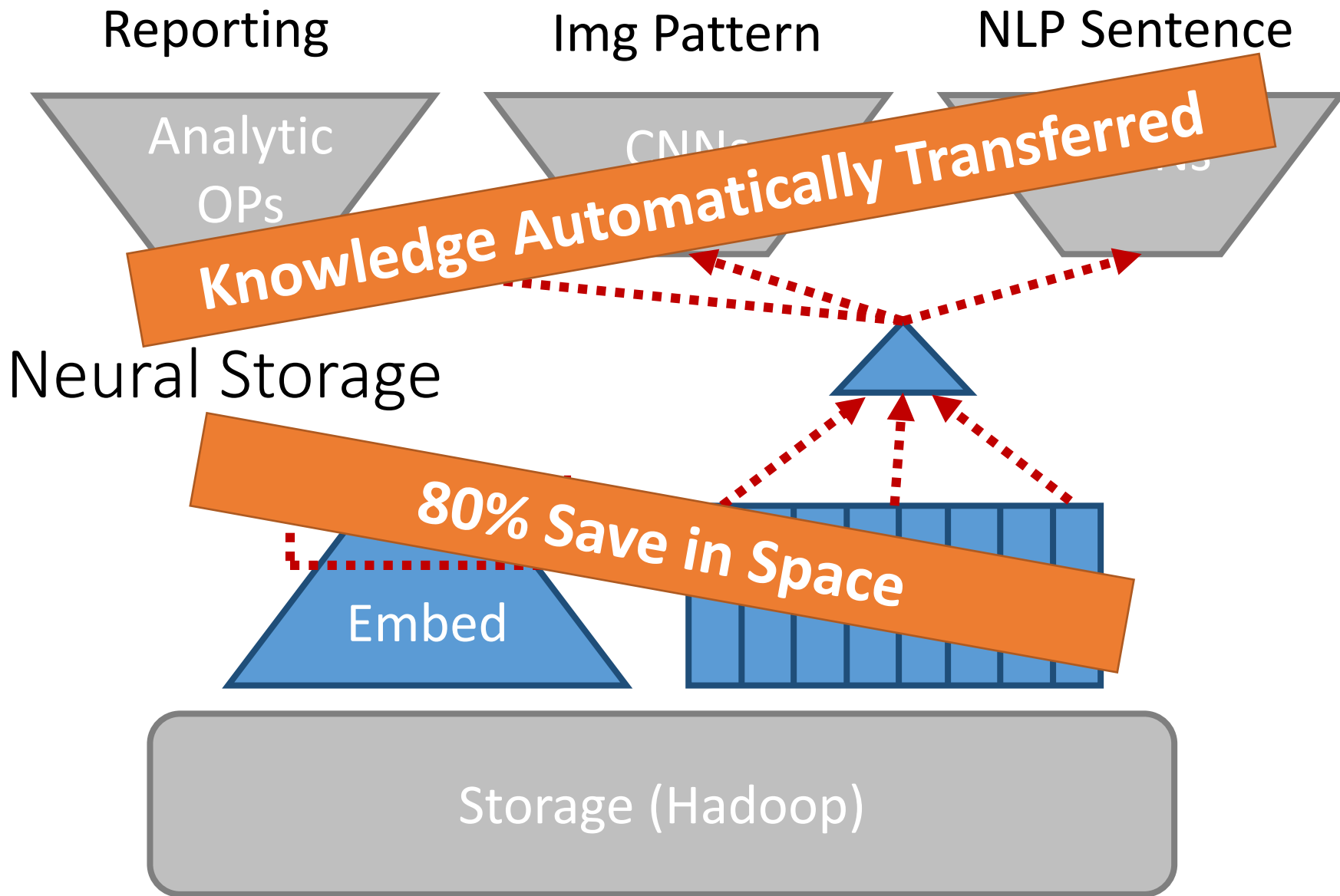
Reporting &  
Decision Support  
(OLAP, Data Lake)

AI  
(CNNs, RNNs, etc.)

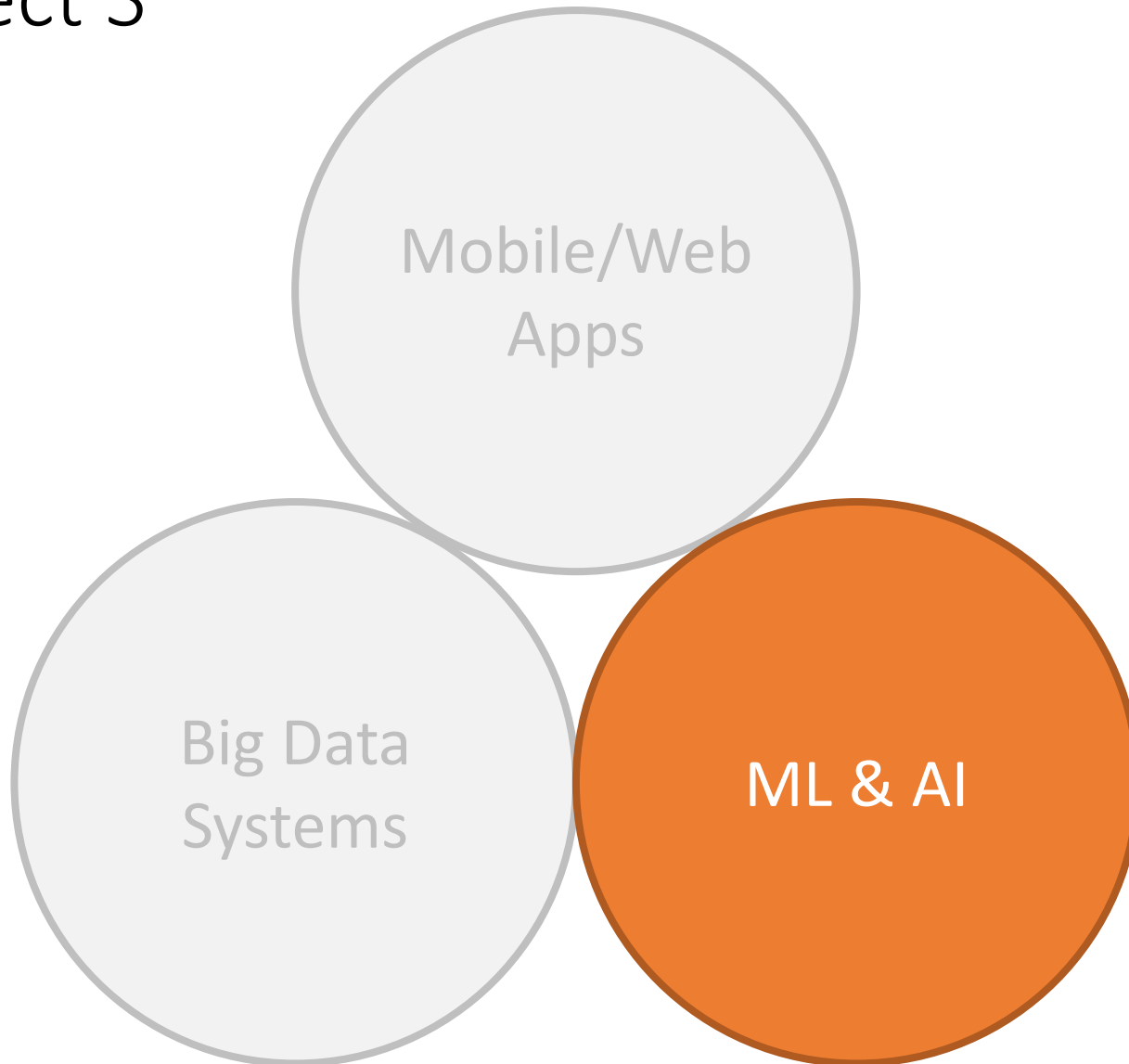
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Neural Storage

Storage (Hadoop)



# Subject 3



# An Neural Network for Life-Long Learning

- Scenario: a machine receive examples from different domain each day, like us



- Short term goal: perform well on the **current task**
- Long term goal: perform well on **all tasks**
- Idea: an NN **with multiple function areas** like our brain

