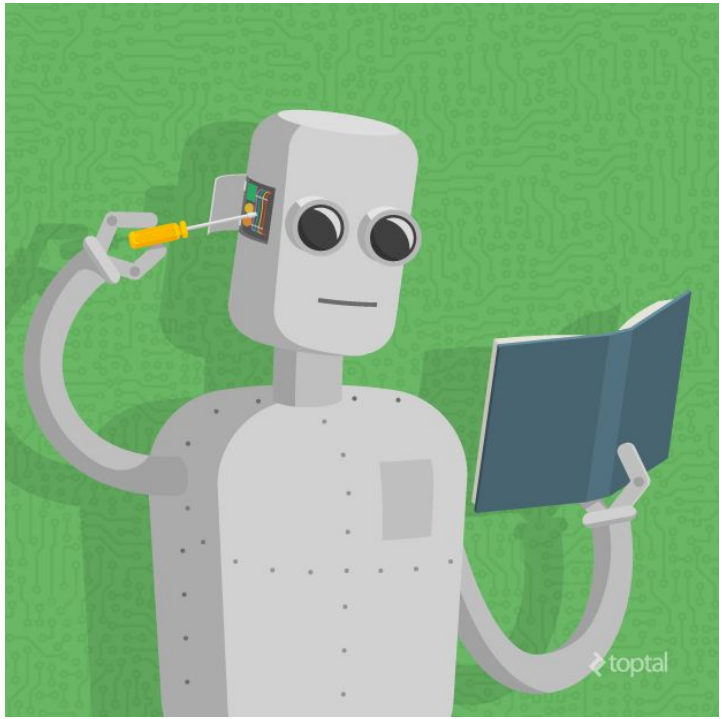
Inteligencia Artificial Avanzada

Machine Learning

Profesor: Junior Fabian Arteaga

UNIVERSIDAD esan

Machine Learning



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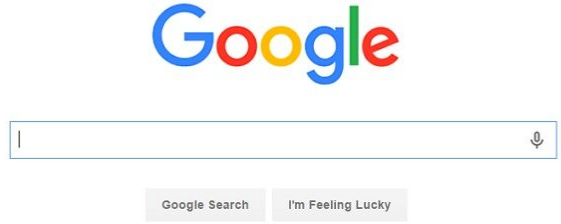
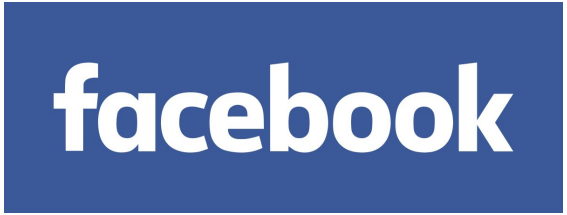
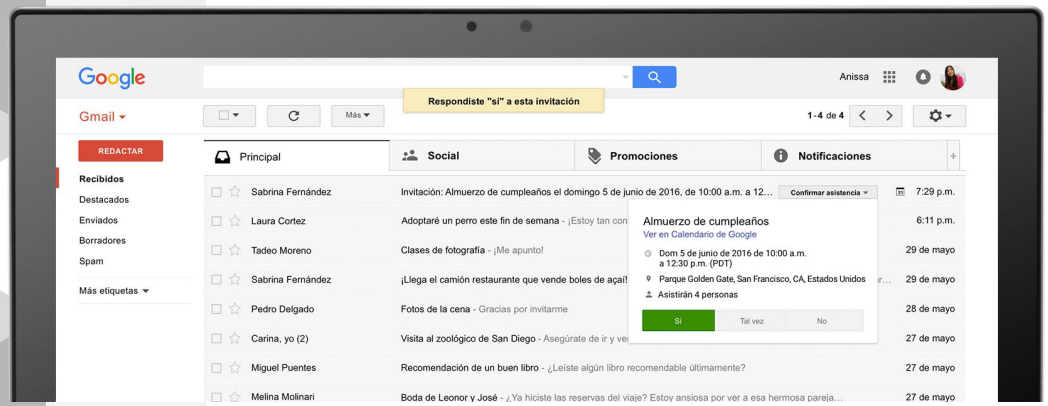






Machine Learning

“Ciencia dedicada a hacer que las computadoras aprendan sin ser directamente programadas para realizar una tarea”

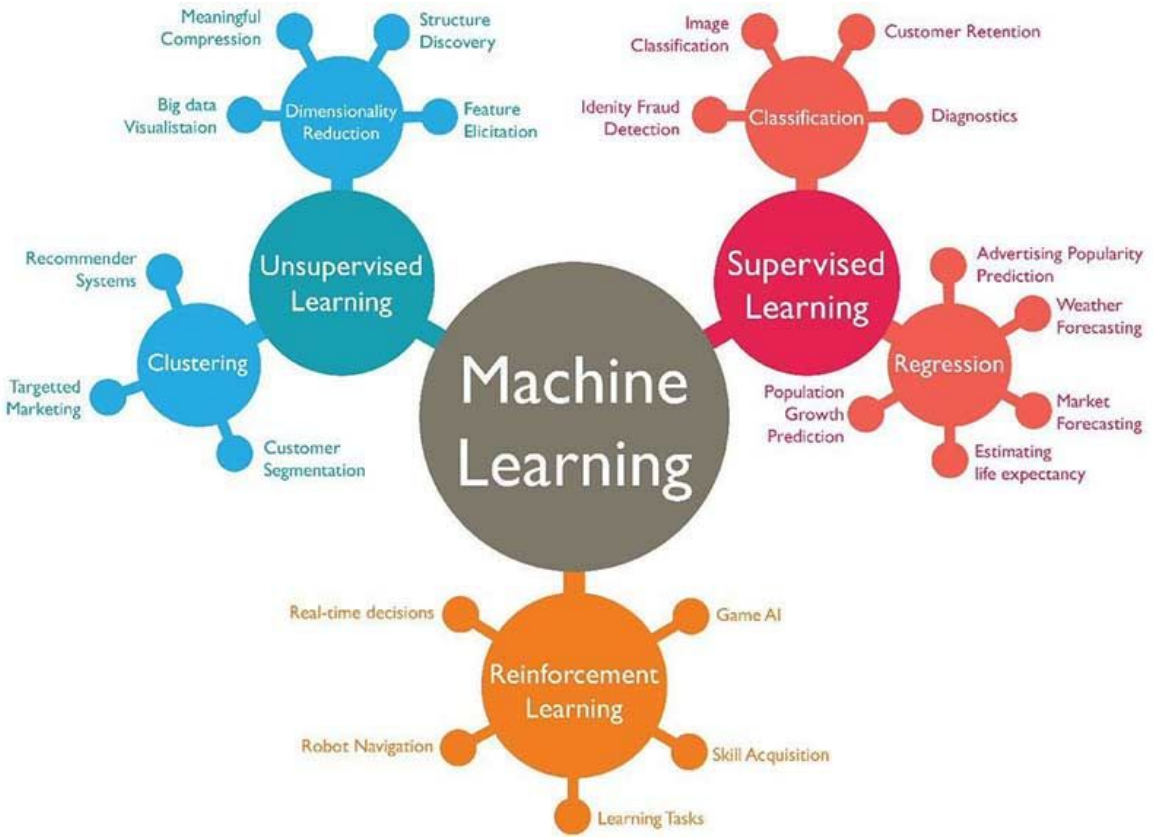
Machine Learning

- Rama de la Inteligencia Artificial
- Nuevas capacidades a las computadoras

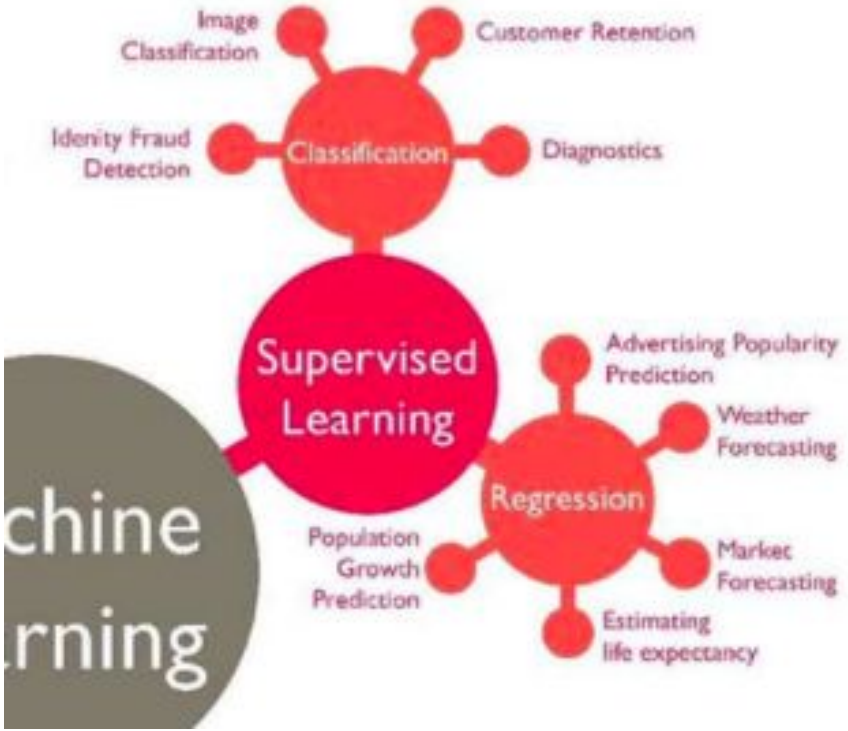
Ejemplos:

- Database mining (web click data, registros médicos, biología, ingeniería)
- Reconocimiento de escrituras
- Procesamiento de lenguaje natural
- Visión Computacional
- Recomendación de productos (Amazon/Netflix)

Tipos de Aprendizaje

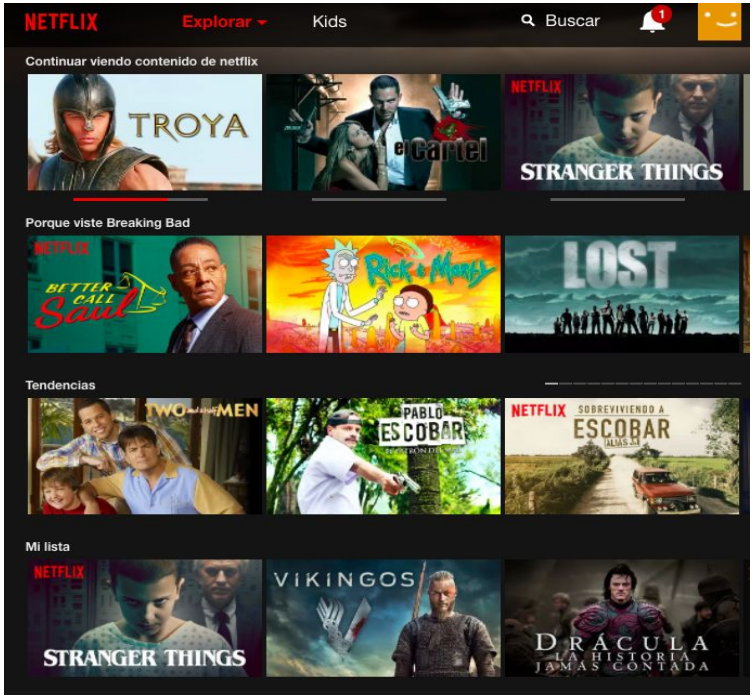


Aprendizaje Supervisado



Regresión

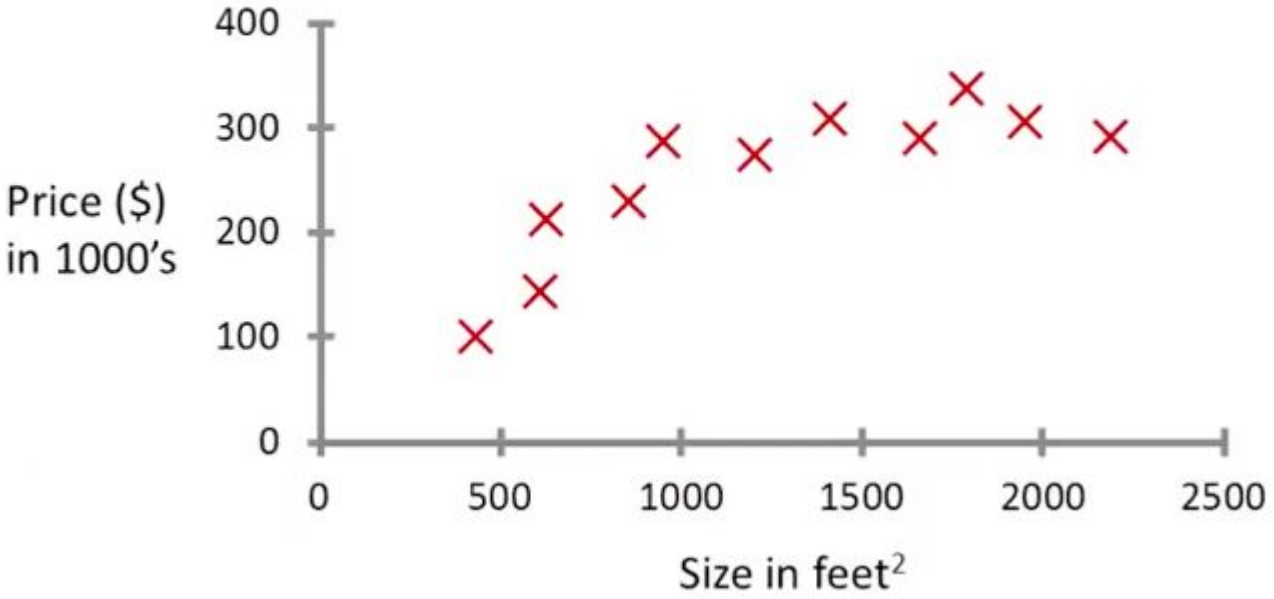
- Predecir en base a datos pasados



Regresión

Regression: Predict continuous valued output (price)

Housing price prediction.



Clasificación

- Discriminar entre 2 (o más) tipos de datos
- Ejemplo: Filtro para Spam

Bad Cures fast and effective! - Canadian *** Pharmacy #1 Internet Inline Drugstore Viagra Our price $1.15 Cialis Our price $1.99 …

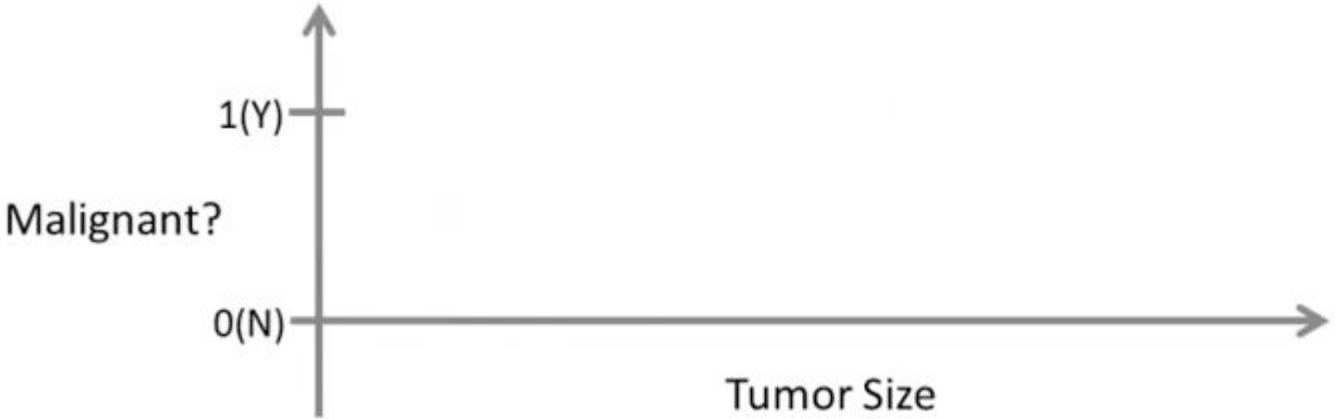
Good Interested in your research on graphical models - Dear Prof. Ihler, I have read some of your papers on probabilistic graphical models. Because I …

Clasificación

Classification

Discrete valued output (0 or 1)

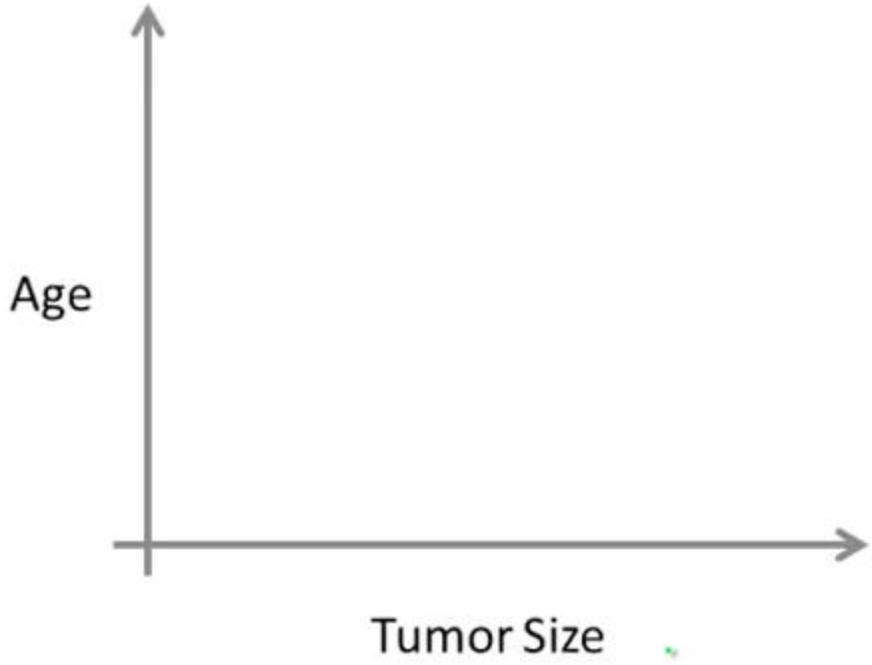
Breast cancer (malignant, benign)



Clasificación

Classification

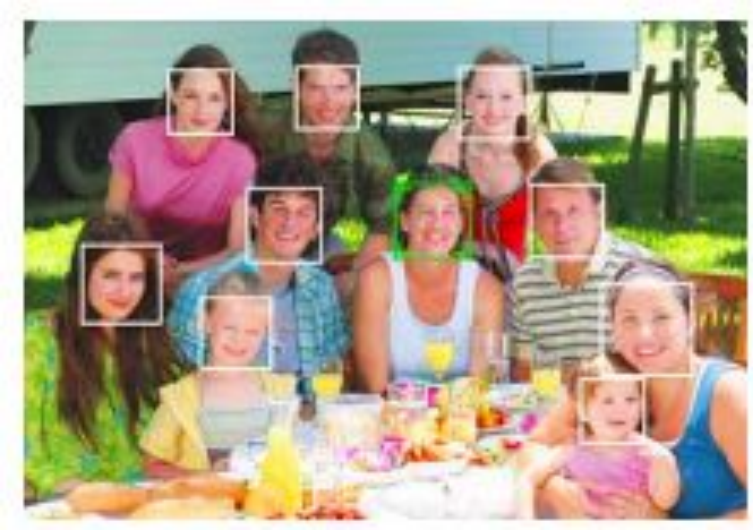
Discrete valued output (0 or 1)



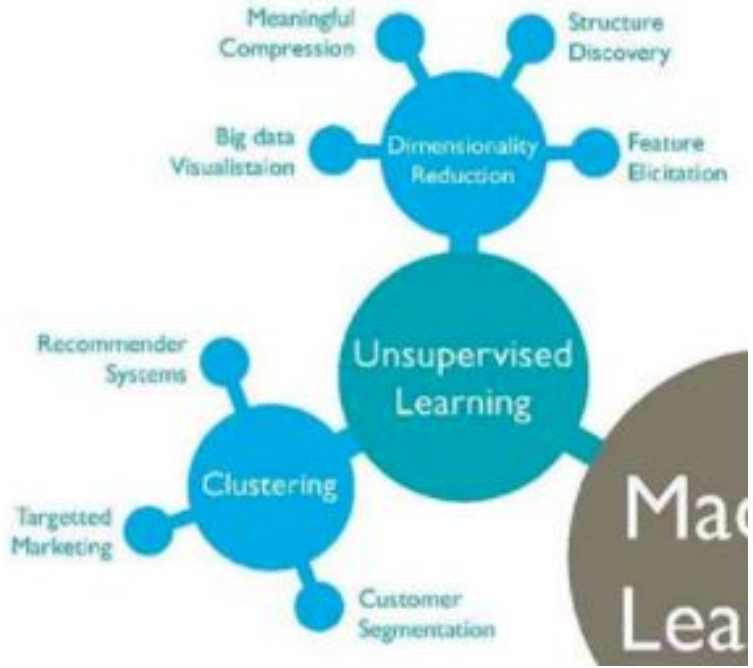
Breast cancer (malignant, benign)

Clasificación

- Ejemplo: Detección de Rostros



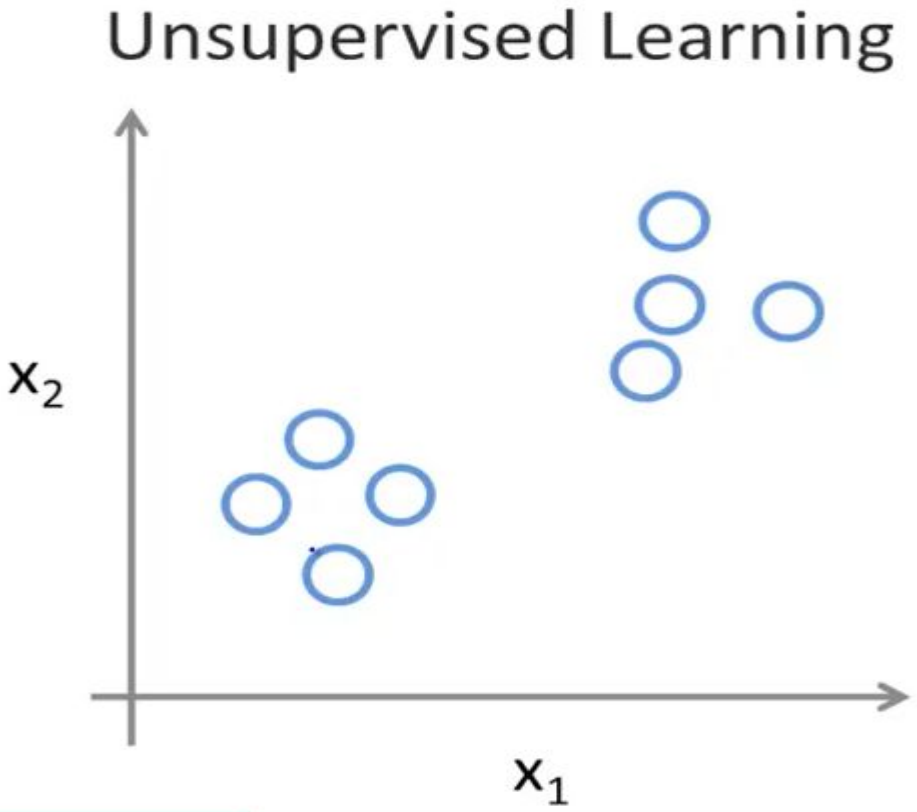
Aprendizaje No Supervisado



Data Mining

- Enorme cantidad de datos disponibles
  - Web, Google books,...
  - Demasiado grandes para organizar manualmente
- Cómo decide Google los links *"relevantes"*
- Cómo buscar textos por tópicos (medicina, leyes, etc.)
- Qué hace a un documento *"similar"* a otro

Aprendizaje No Supervisado



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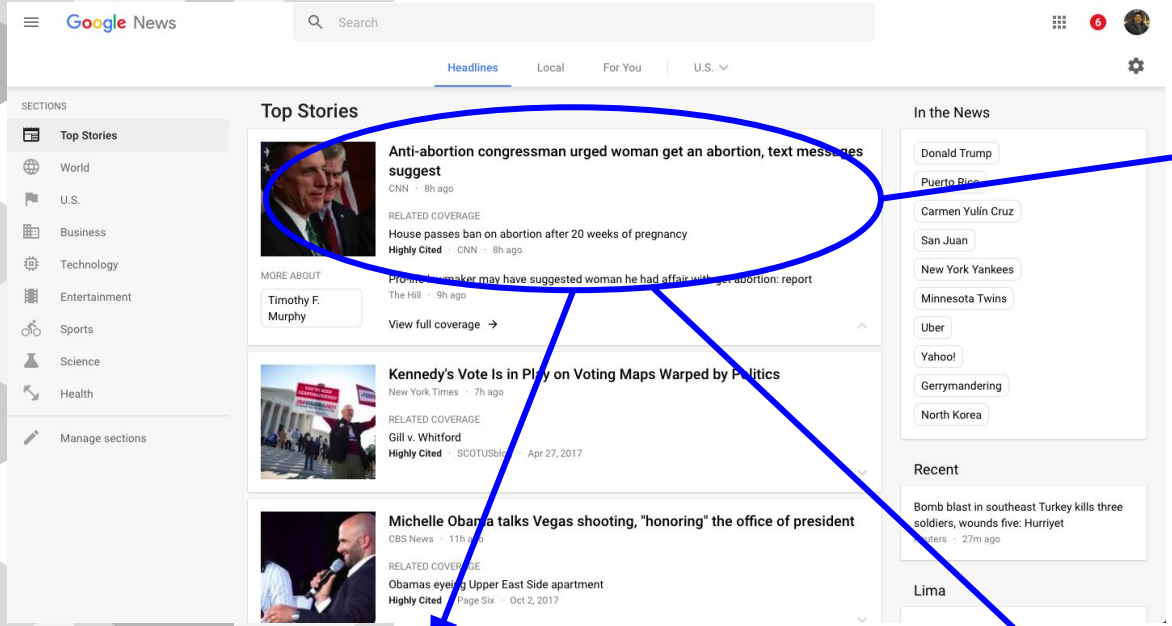
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By Eli Watkins, CNN
Updated 2233 GMT (0633 HKT) October 3, 2017
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Rep. Tim Murphy (R-Pa.), who has been an anti-abortion advocate, may have suggested that a woman he had an extra-marital affair with have an abortion, according to the Pittsburgh Post-Gazette.
The Post-Gazette obtained a text sent from the woman to Murphy saying the lawmaker had suggested she have an abortion during a pregnancy scare. The woman turned out not to be pregnant at the time.
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By Sophie Tatum, CNN
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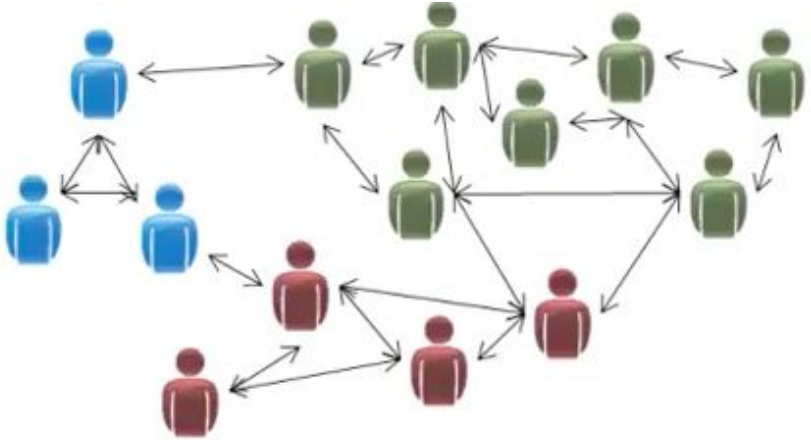
Organize computing clusters



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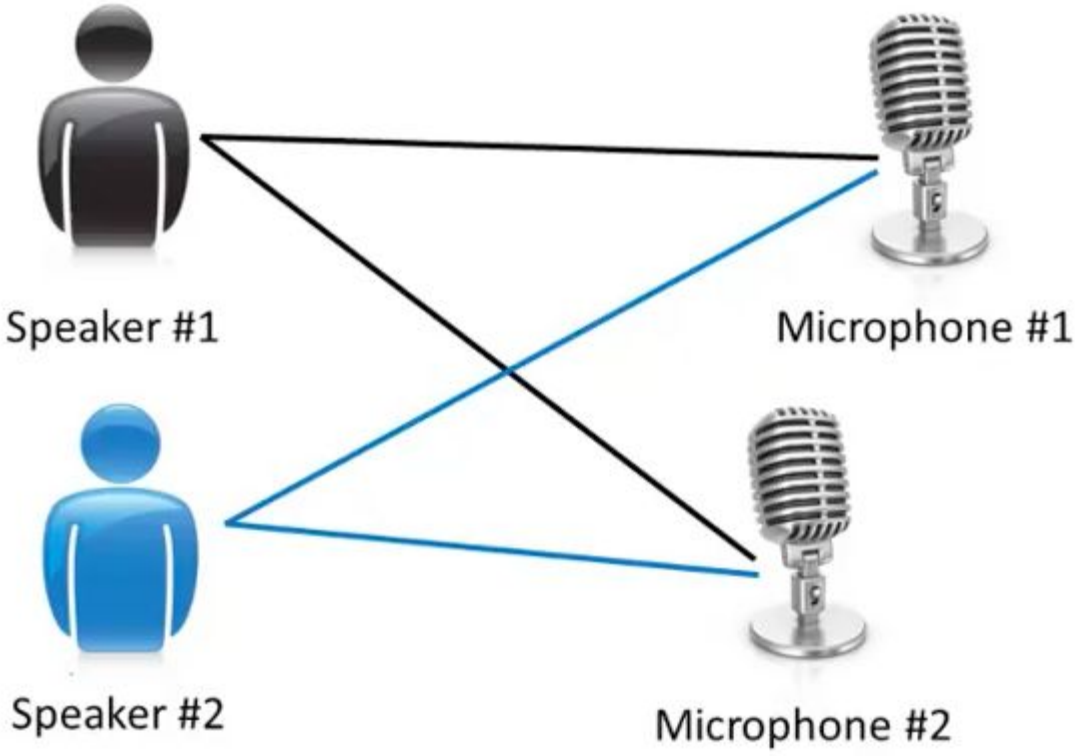
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