

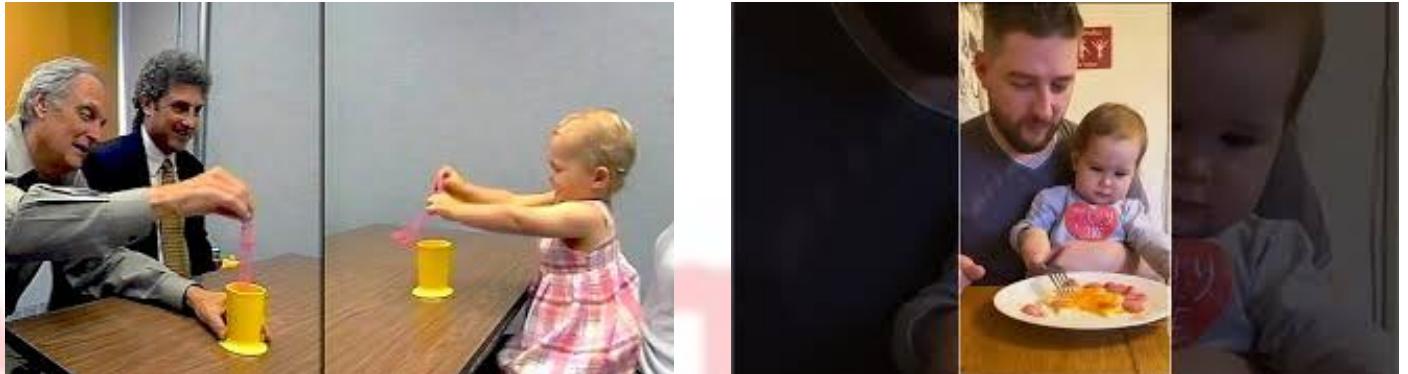
# TECHCRUSH ARTIFICIAL INTELLIGENCE BOOTCAMP

Facilitator: Hammed Obasekore

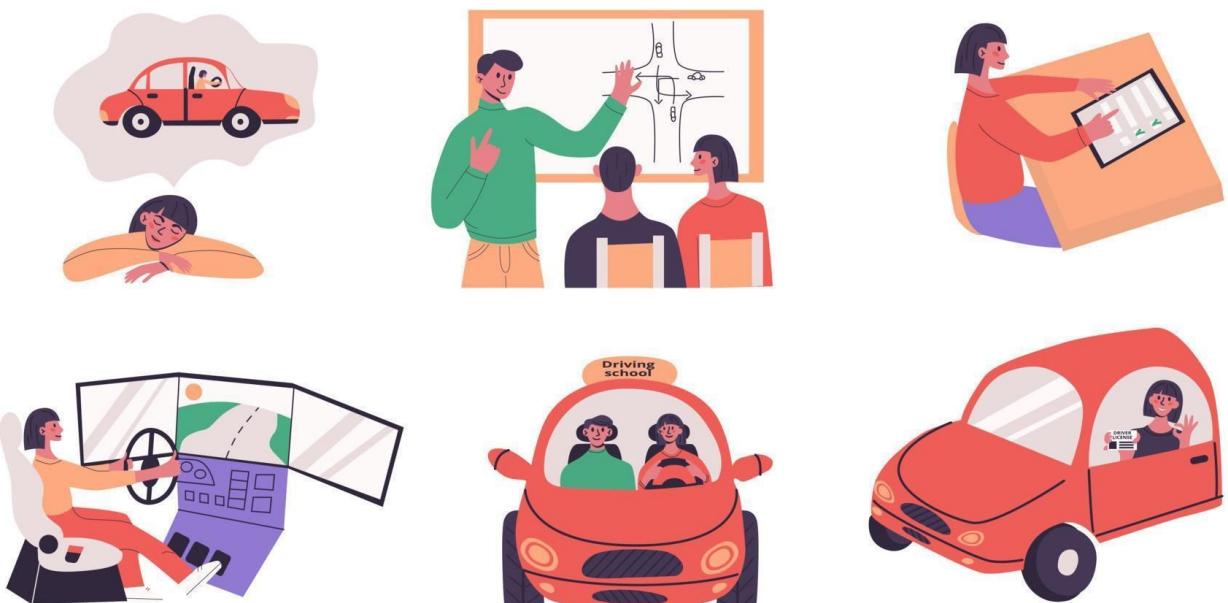
August 18th, 2025

# FOUNDATIONS OF MACHINE LEARNING

- Understanding Machine Learning (ML)



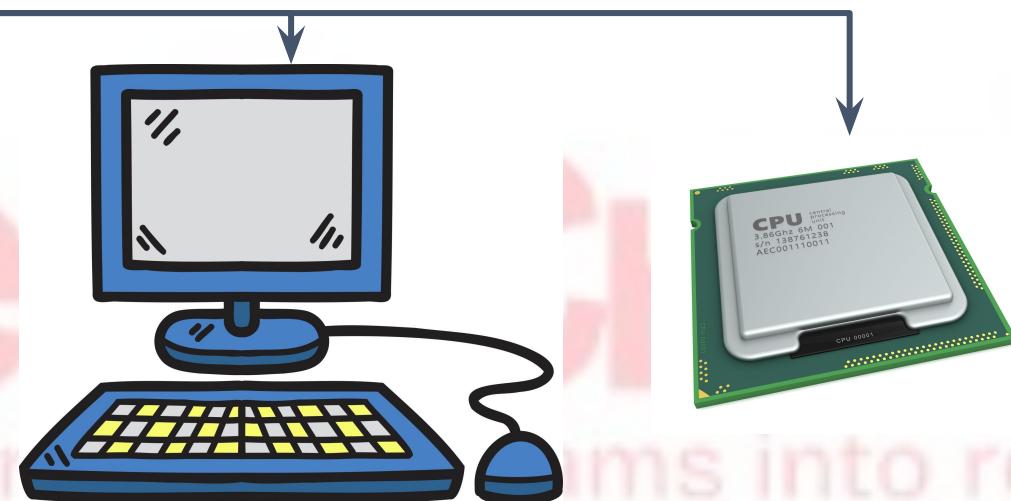
Human Learning



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## FOUNDATIONS OF MACHINE LEARNING

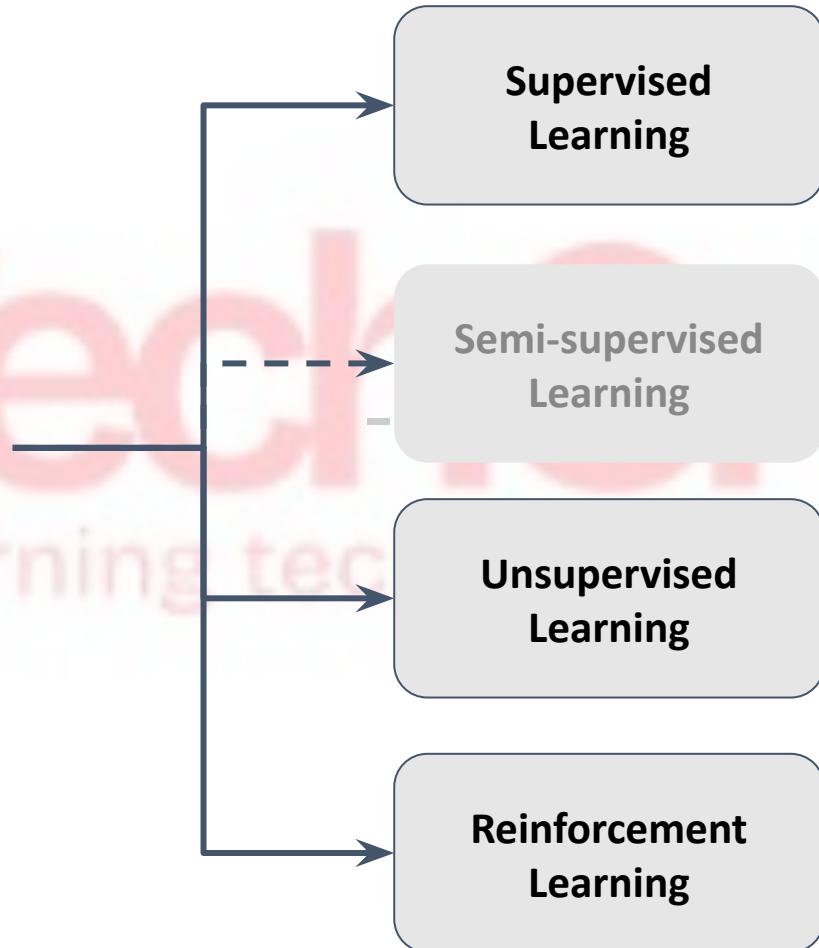
- Understanding **Machine Learning (ML)**



ML is the process of training a piece of software, called a model, to make useful predictions or generate content (like text, images, audio, or video) from data.

# FOUNDATIONS OF MACHINE LEARNING

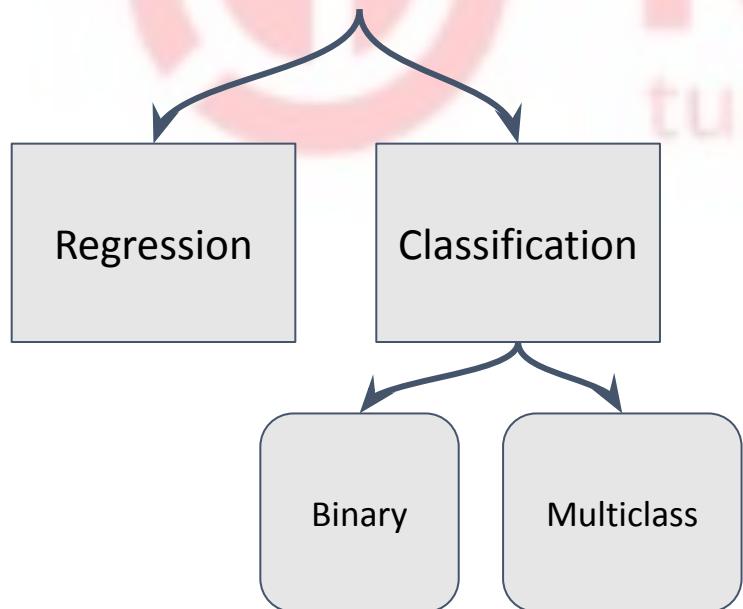
- **Types of Machine Learning (ML) Systems**



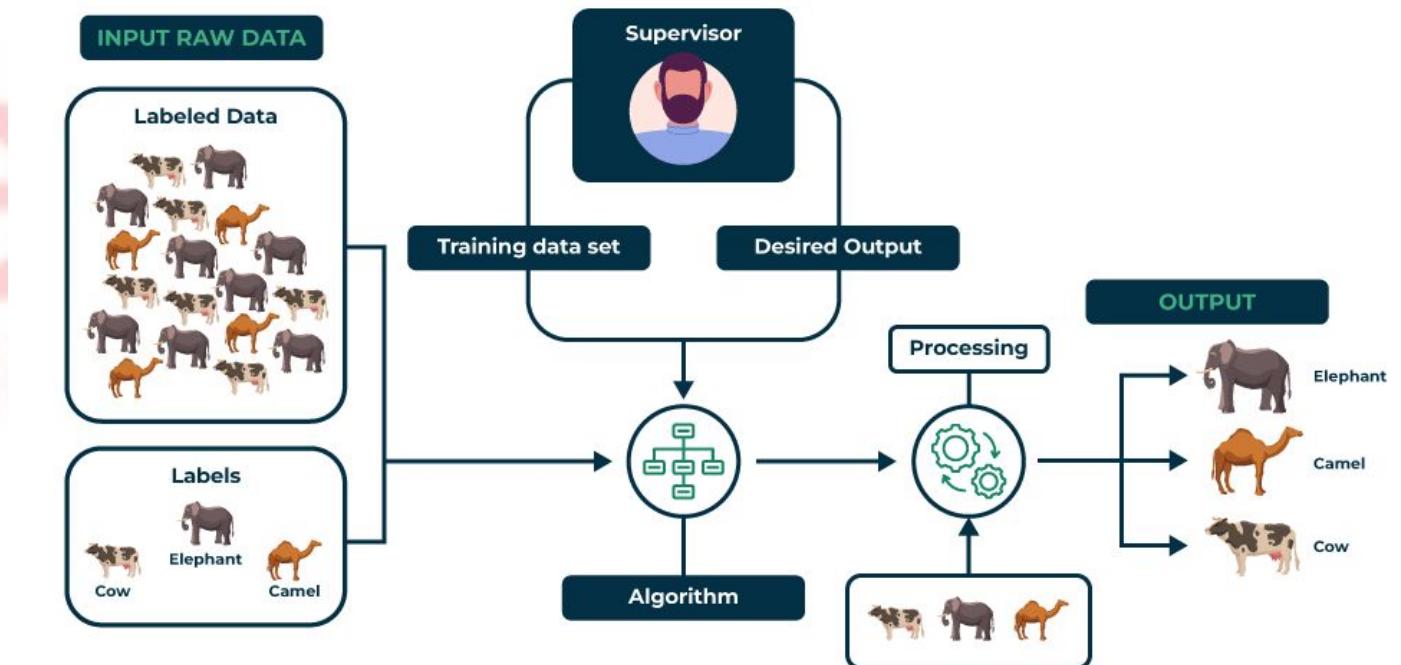
# FOUNDATIONS OF MACHINE LEARNING

models that can make predictions after seeing **lots of data with the correct answers** and then discovering the connections between the elements in the data that produce the correct answers.

- **Supervised Learning**



## Supervised Learning



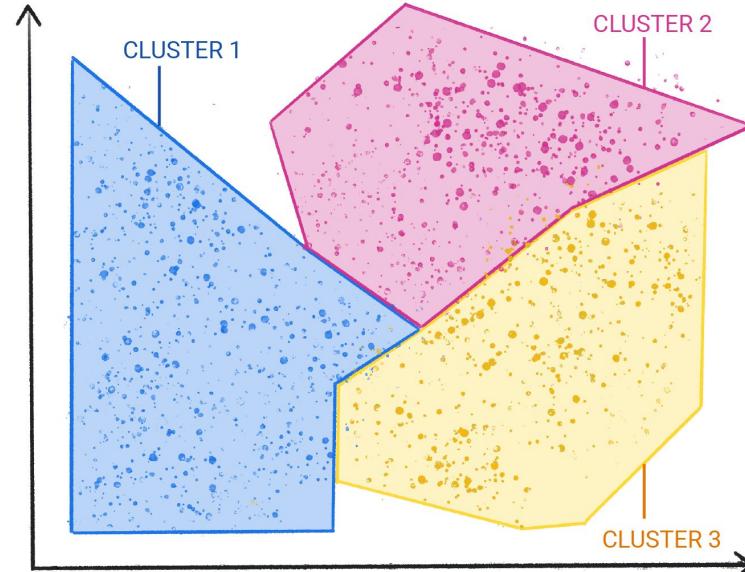
# FOUNDATIONS OF MACHINE LEARNING

models that make predictions by being given data that does not contain any correct answers.

- **Unsupervised Learning**

Clustering

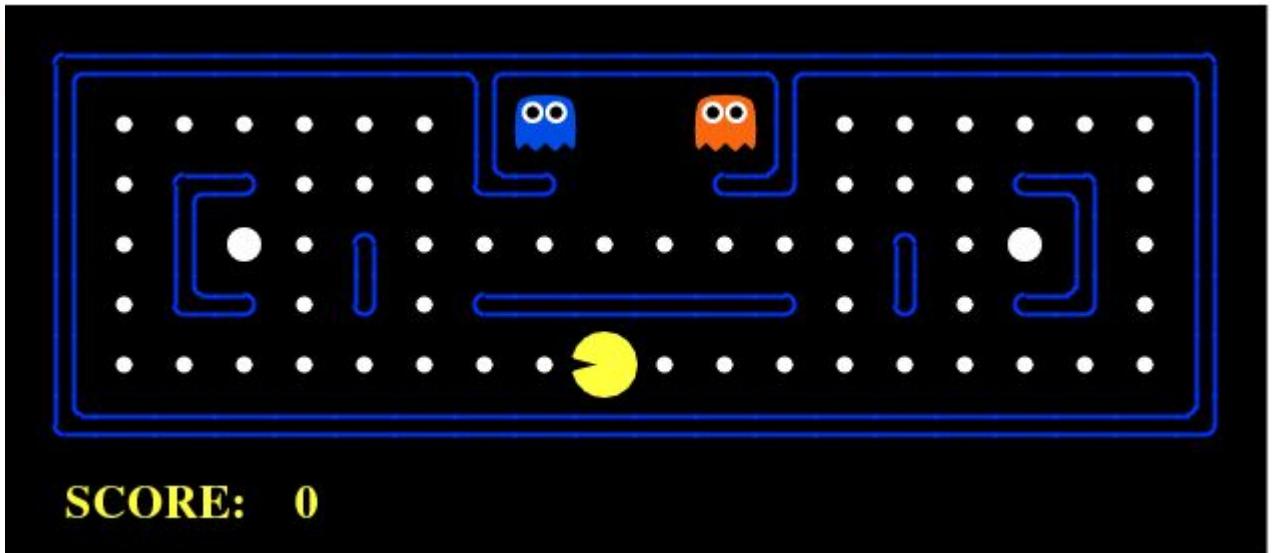
Dimensionality Reduction



# FOUNDATIONS OF MACHINE LEARNING

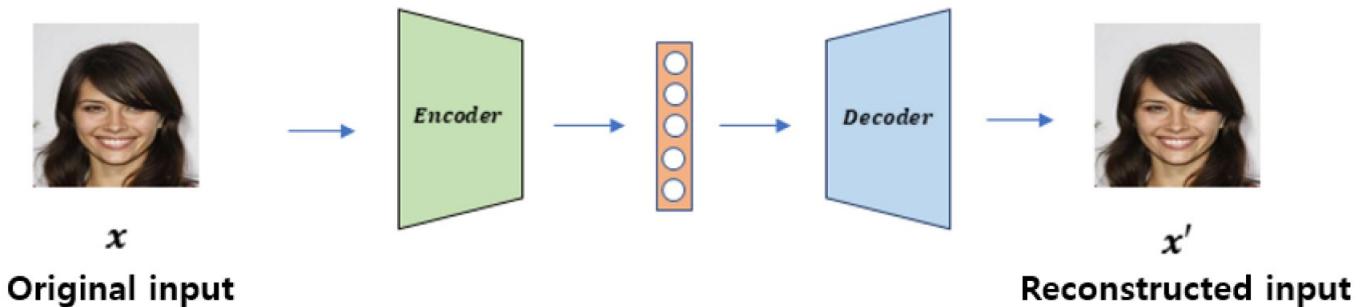
models that make predictions by getting **rewards or penalties** based on actions performed within an **environment**.

- **Reinforcement Learning**



# FOUNDATIONS OF MACHINE LEARNING

- **Semi-supervised Learning**
- **or Generative AI**

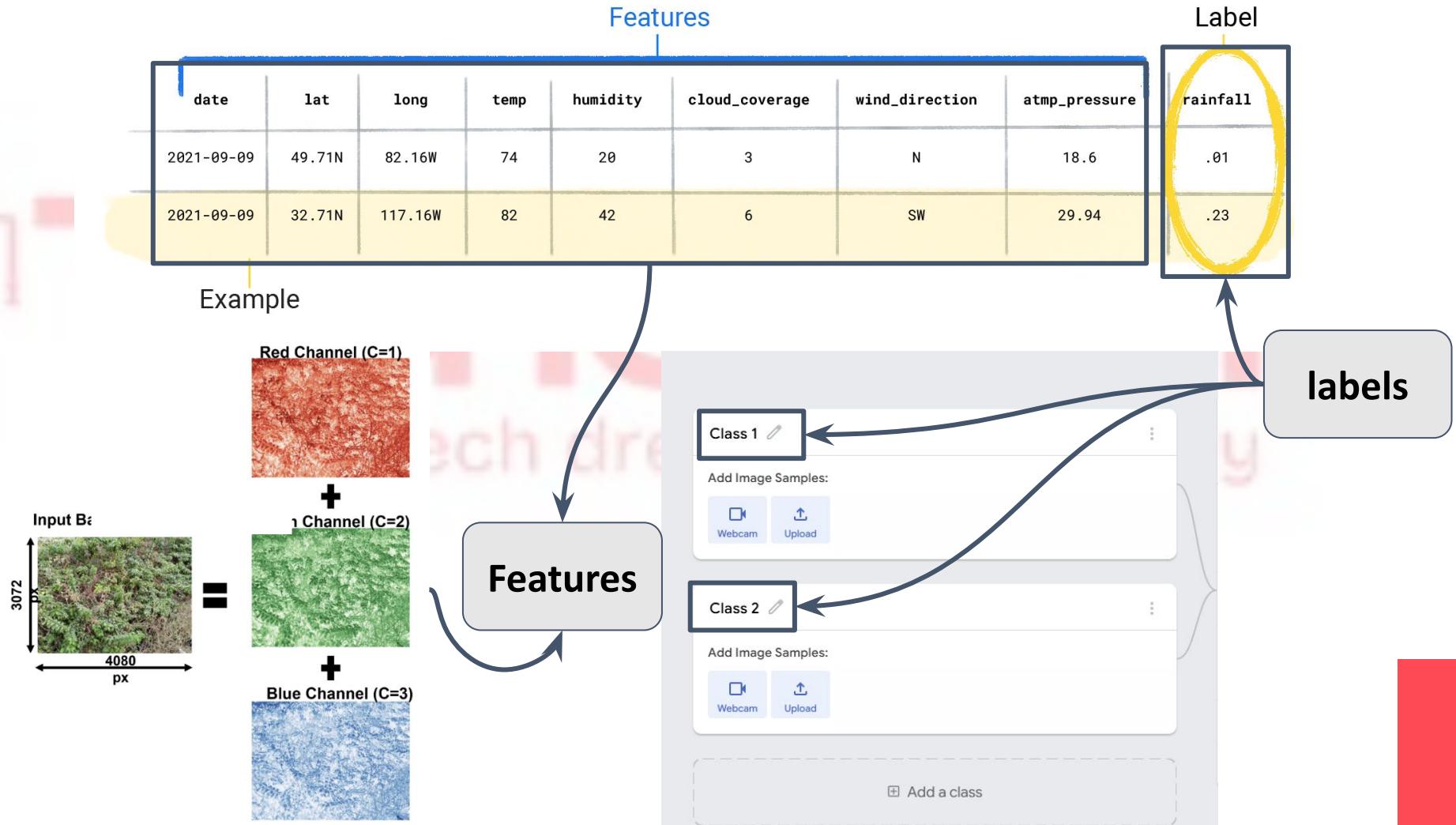


# FOUNDATIONS OF MACHINE LEARNING



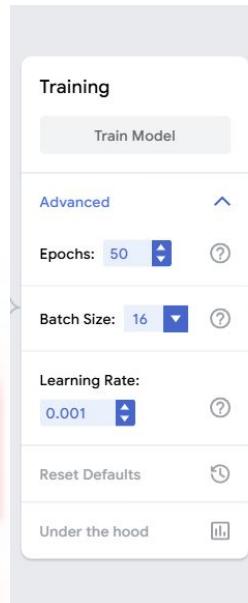
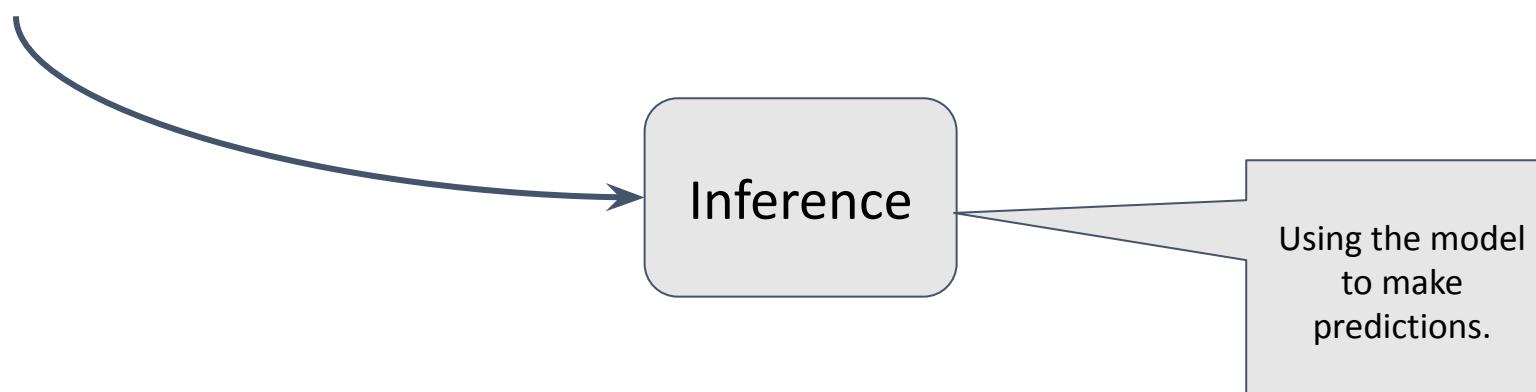
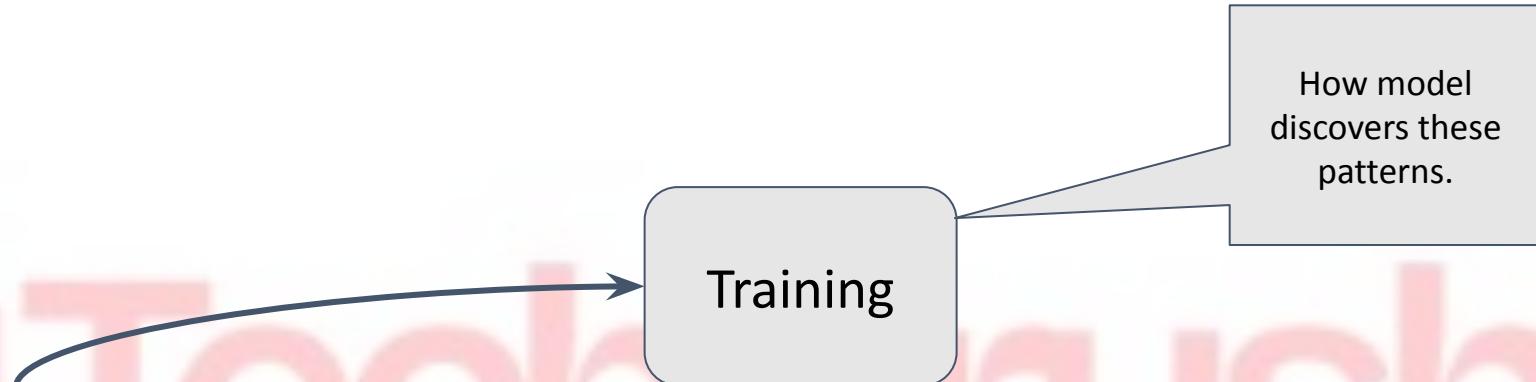
**Dataset**

- Features
- labels

**Public Datasets**
[kaggle](https://www.kaggle.com)


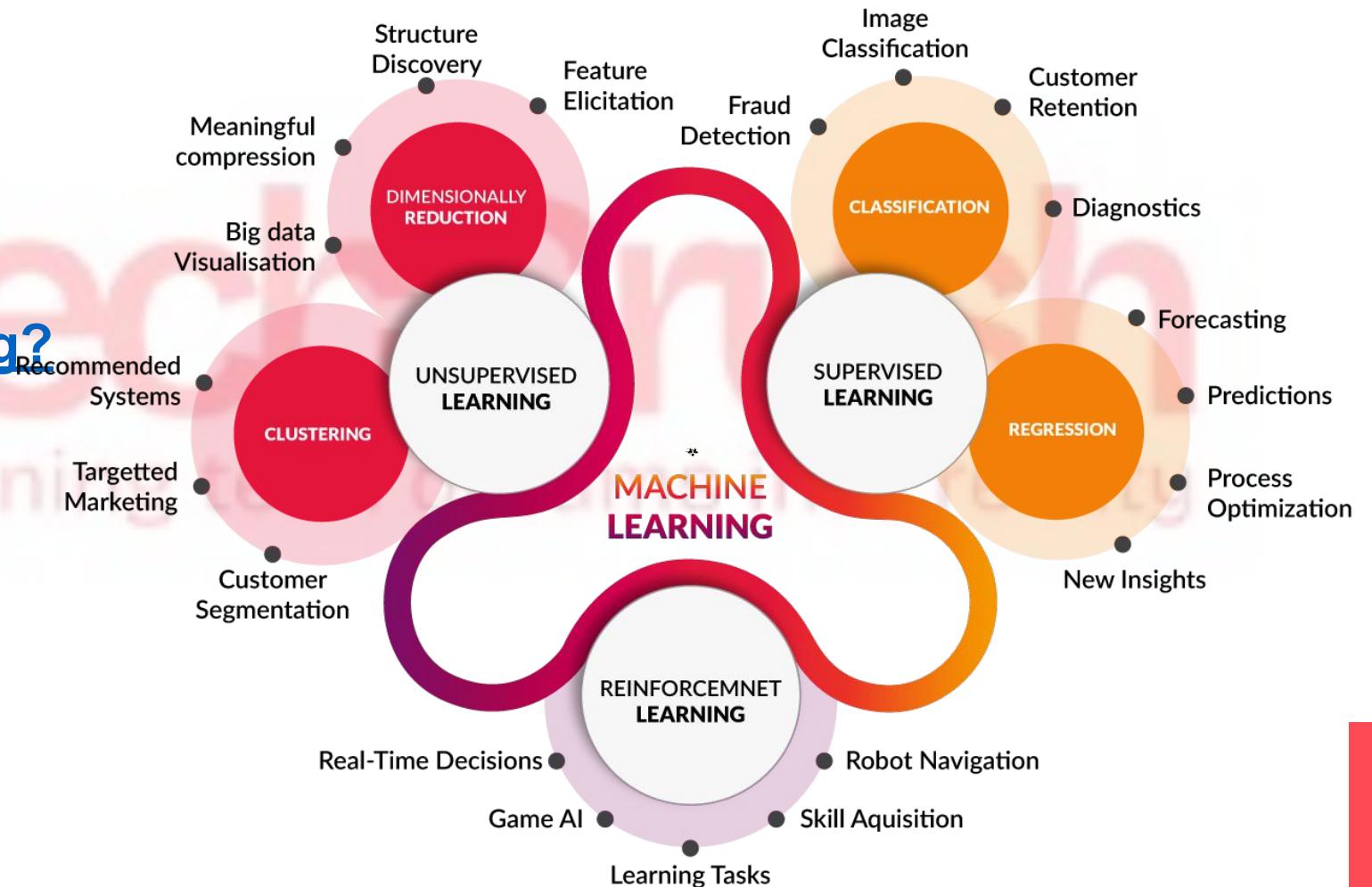
# FOUNDATIONS OF MACHINE LEARNING

**Models** is the complex collection of numbers that define the mathematical relationship from specific input feature patterns to specific output label values.



# FOUNDATIONS OF MACHINE LEARNING

- **Summarily**
- **Read More**
- [Introduction to Machine Learning](#)
- [What is Machine Learning?](#)



# Python

- Interpreted language
- Syntax & Semantic
  - White-Space and Indentation
- Comments
- Variables & Data Types
  - Variable Name
  - Case-Sensitivity
  - Single or Double quotes
  - Data-mismatch
  - Scope (Global & Local)
- Array-like
  - Strings
  - Lists
  - Tuples
  - sets
  - Dictionaries
- Operator
- Condition
- Loops
- Functions
- Importing and Installing libraries

[Visualize Python Execution](#)

[W3School - Python](#)



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