# Classification Algorithms Overview

#### After this video you will be able to...

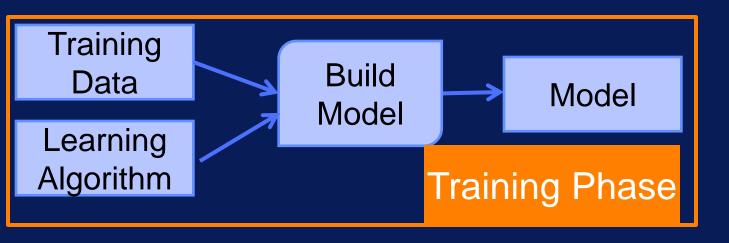
- Describe the goal of a classification algorithm
- Name some common algorithms for classification

#### Classification

- Task: Predict category from input variables
- Goal: Match model outputs to targets (desired outputs)



## **Learning Algorithm**



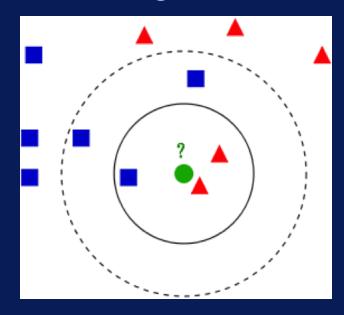
 Learning algorithm used to adjust model's parameters

### **Classification Algorithms**

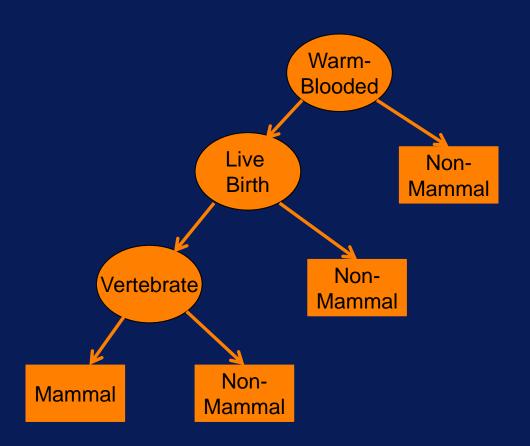
- Common basic classification algorithms
  - kNN
  - Decision tree
  - Naïve bayes

#### **kNN** Overview

 Classify sample by looking at its closest neighbors



#### **Decision Tree Overview**



Tree captures multiple classification decision paths

### Naïve Bayes Overview

 Probabilistic approach to classification

Bayes' Theorem:
$$P(A|B) = \frac{P(B|A) P(A)}{P(B)}$$

# Classification Algorithms k Nearest Neighbors

**Decision Tree** 

Naïve Bayes

Many others ...