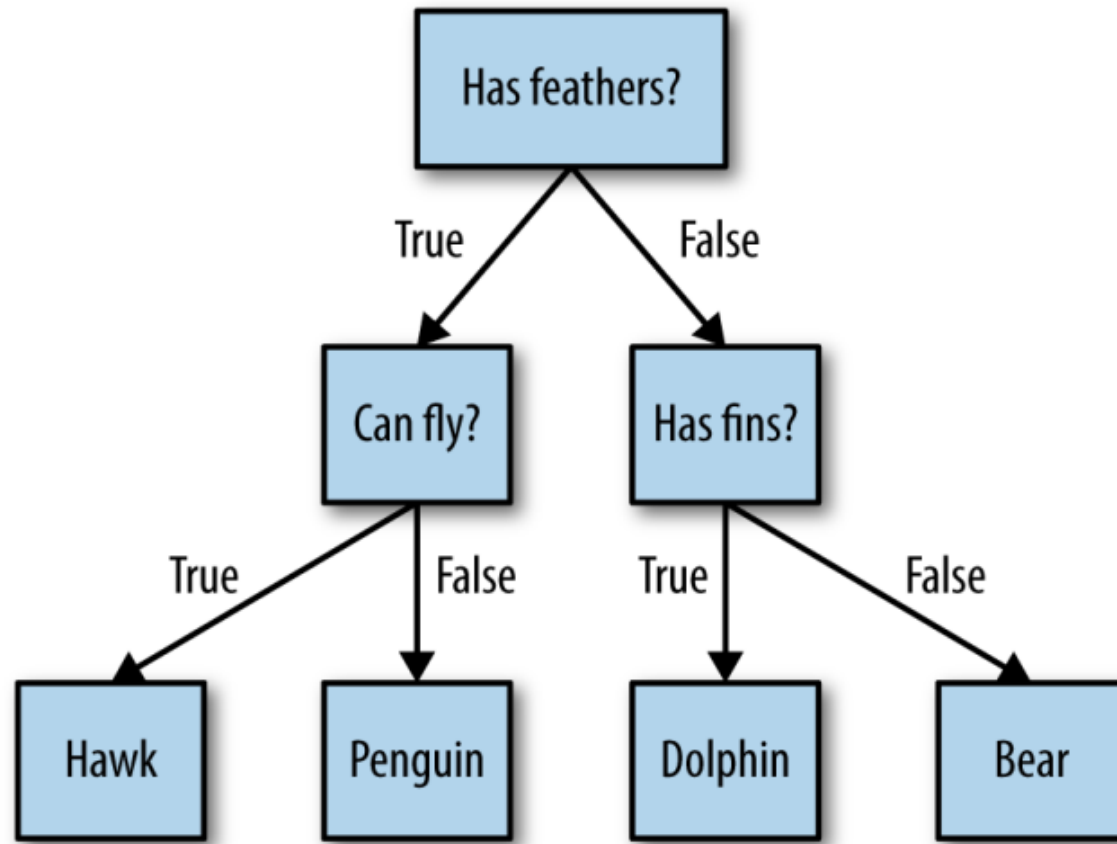


Decision Trees - Intuition

Dr. Muhammad Wasim

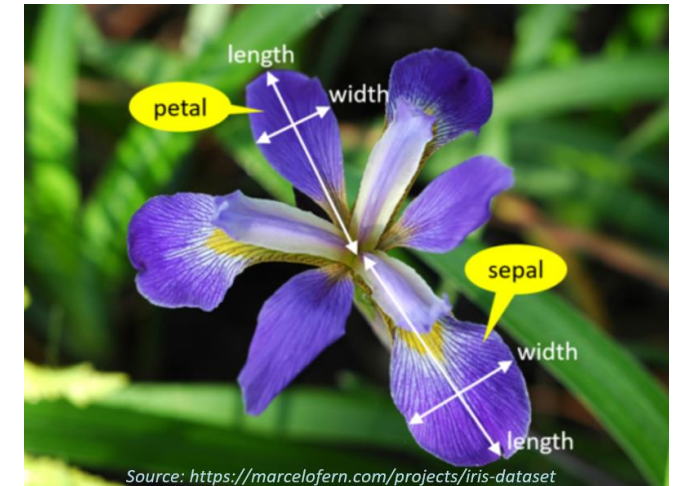
Decision Tree Intuition



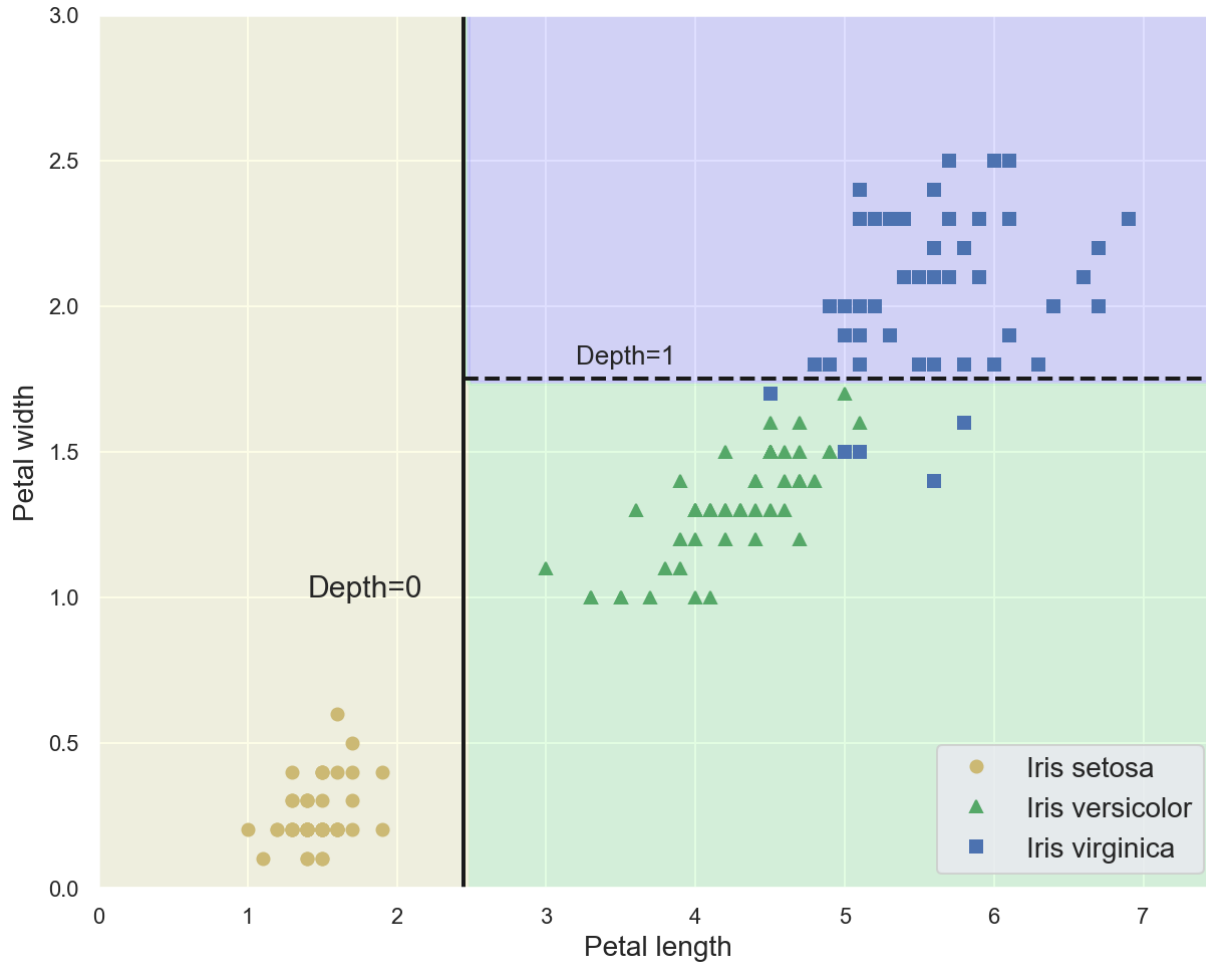
Iris Plant Categories

Can you identify different types of Iris flowers?

| Sepal Length | Sepal Width | Petal Length | Petal Width | Type |
|--------------|-------------|--------------|-------------|-----------------|
| 5.1 | 3.5 | 1.4 | 0.2 | Iris setosa |
| 4.9 | 3.0 | 1.4 | 0.2 | Iris setosa |
| 7.0 | 3.2 | 4.7 | 1.4 | Iris versicolor |
| 6.4 | 3.2 | 4.5 | 1.5 | Iris versicolor |
| 6.3 | 3.3 | 6.0 | 2.5 | Iris virginica |
| 5.8 | 3.3 | 6.0 | 2.5 | Iris viginica |



Decision Boundary in a Decision Tree



An Example Dataset

| Loves Popcorn | Loves Soda | Age | Loves A Movie |
|---------------|------------|-----|---------------|
| Yes | Yes | 7 | No |
| Yes | No | 12 | No |
| No | Yes | 18 | Yes |
| No | Yes | 35 | Yes |
| Yes | Yes | 38 | Yes |
| Yes | No | 50 | No |
| No | No | 83 | No |