

Multiclass - One-vs-Rest Strategy

Extension to $K > 2$ classes

K

Train **K binary classifiers**: Class k vs. all others



For each class: Separate logistic regression model

Architecture

Class 1

vs Rest

Class 2

vs Rest

Class 3

vs Rest

...

...

Class K

vs Rest



Choose class with highest probability

Advantages:

✓ Simple

✓ Interpretable

✓ Parallelizable

Disadvantages:

X Probabilities may not sum to 1

Works well when classes are well-separated