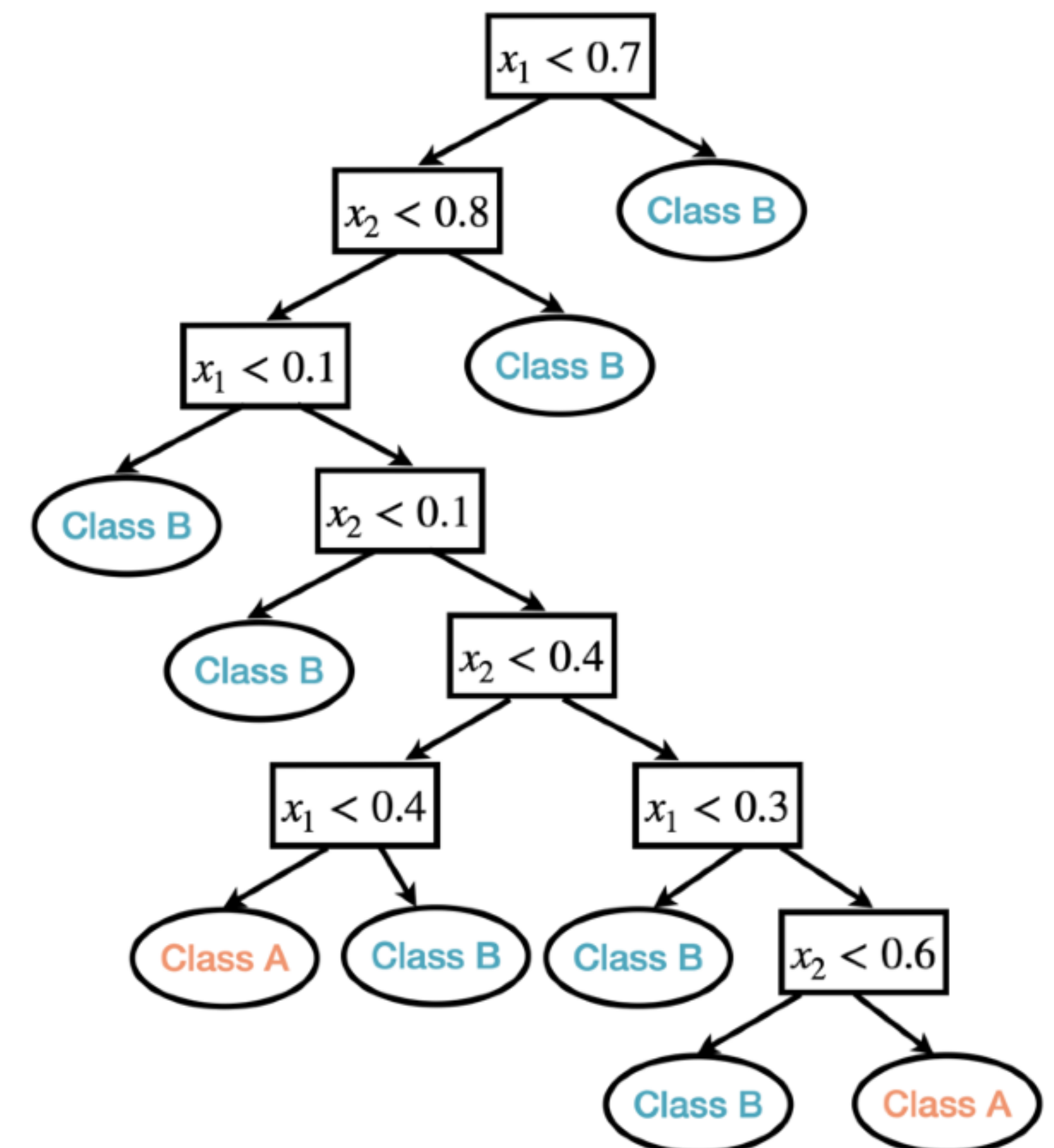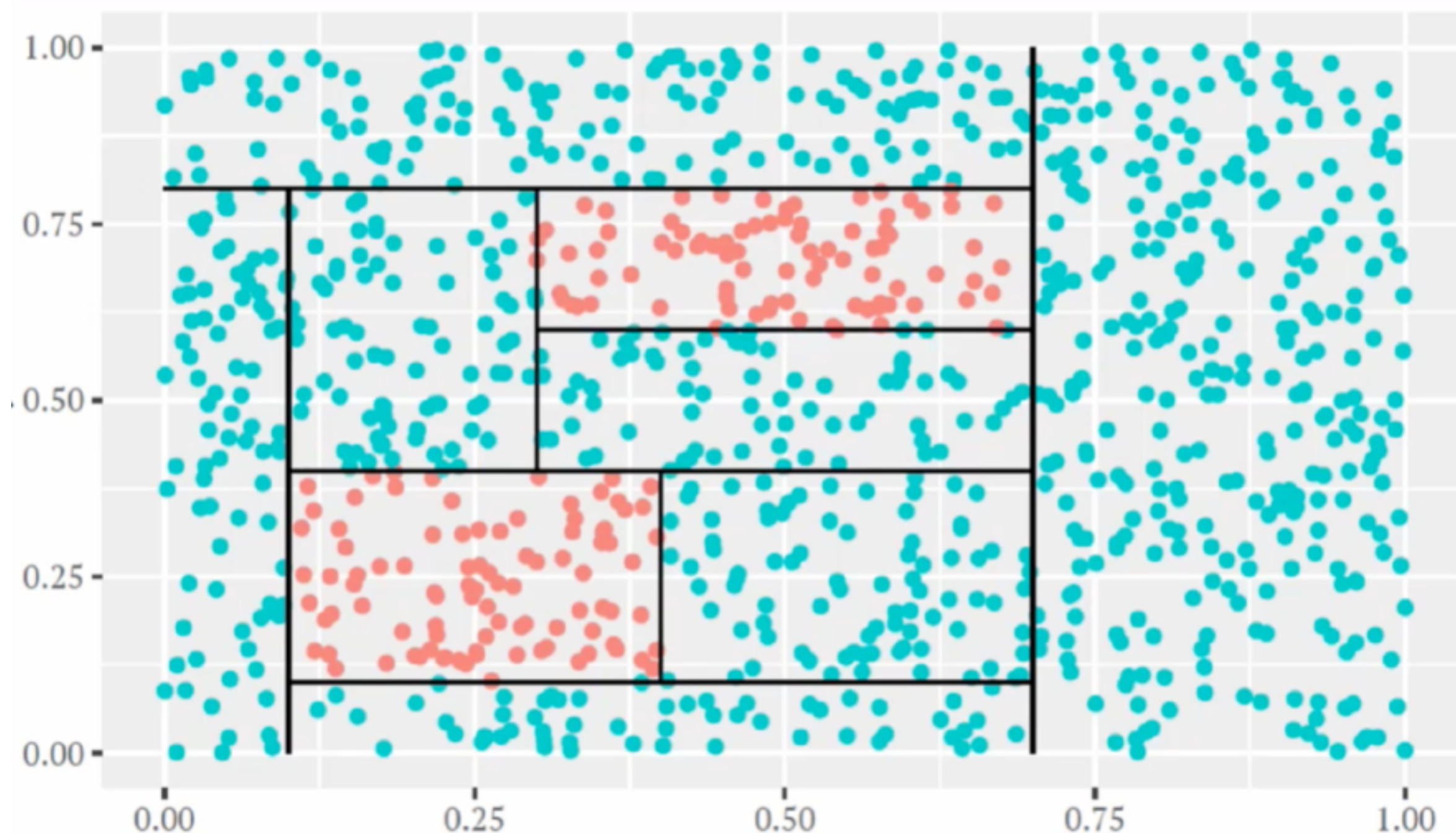# Tree-Based Classification

nonparametric algorithms **partitioning the feature space** into a number of smaller (non-overlapping) regions with **similar response** values using a set of **splitting rules**

example: classification tree based on two predictors

Classification and Regression Trees

1. Start with an empty decision tree (undivided feature space)

2. Choose the 'optimal' predictor on which to split,
3. choose the 'optimal' threshold value for splitting by applying a **splitting criterion**

4. Recurse on each new node until stopping condition is met