

JPL-Caltech Virtual Summer School

Big Data Analytics



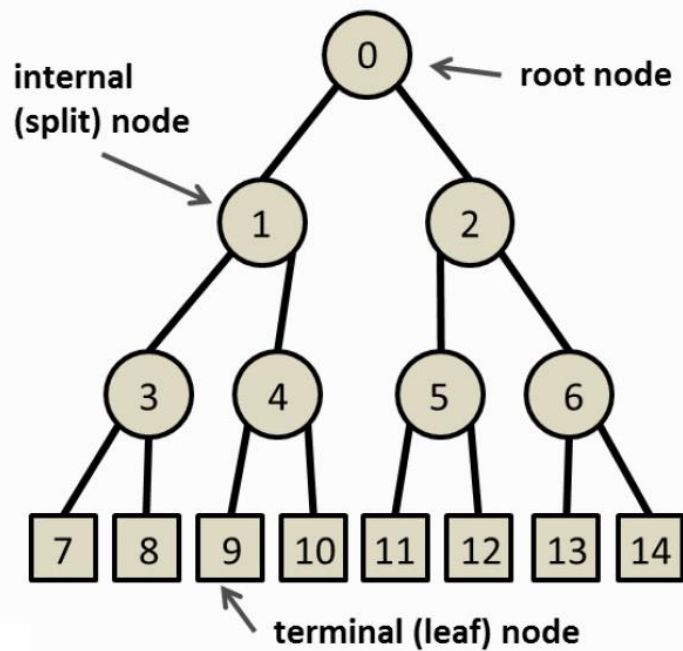
September 2 – 12, 2014

Thomas Fuchs (JPL, Caltech)

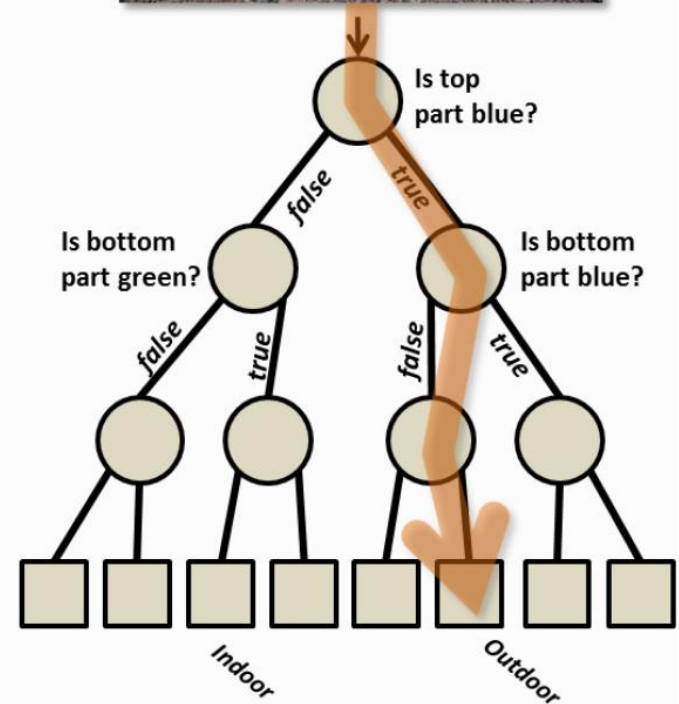
Decision Trees

Decision Tree

A general tree structure

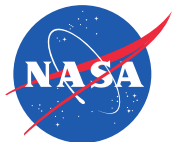
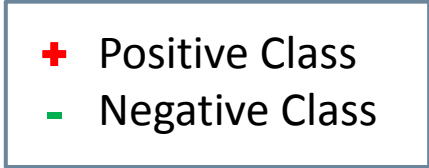
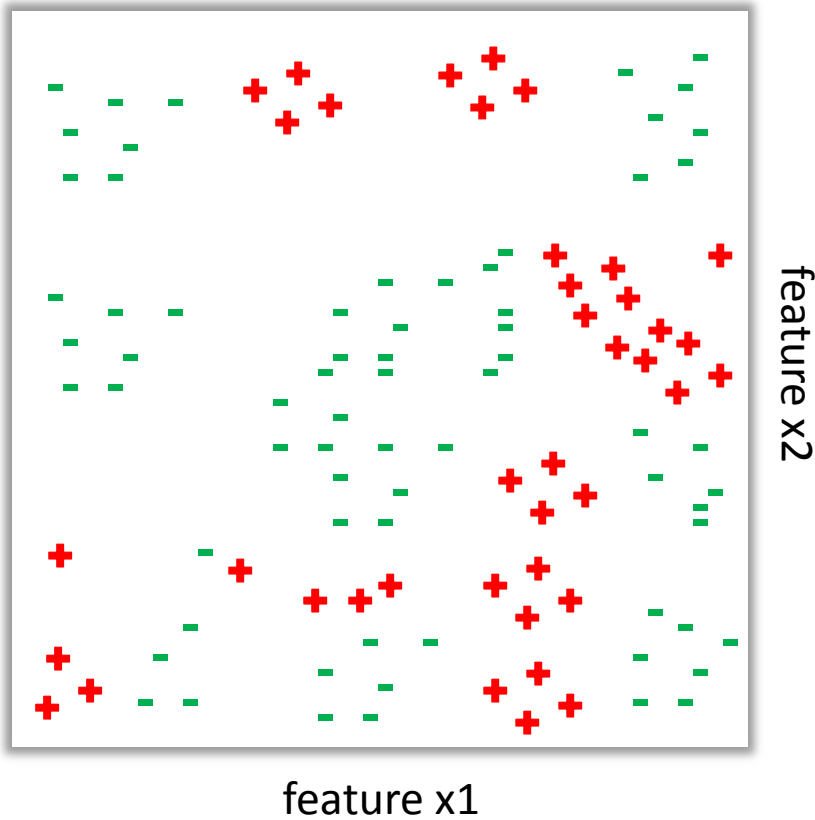


A decision tree



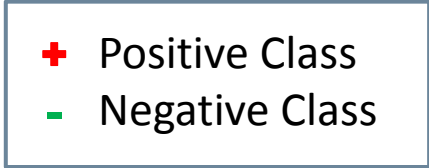
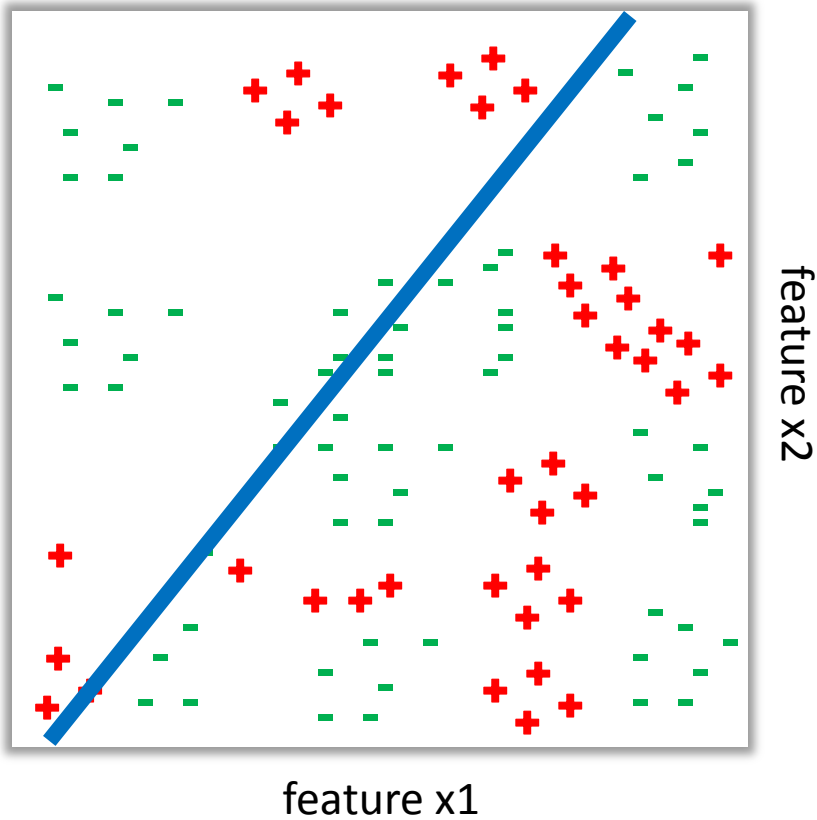
Feature Space

Feature Space



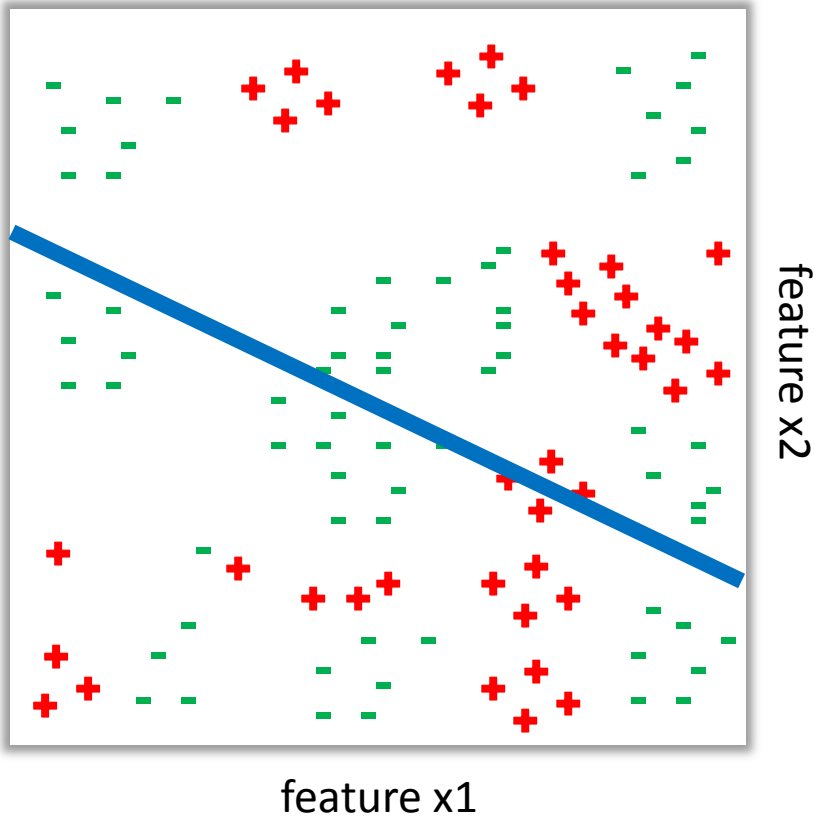
Feature Space

Feature Space



Feature Space

Feature Space

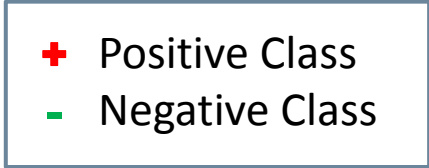
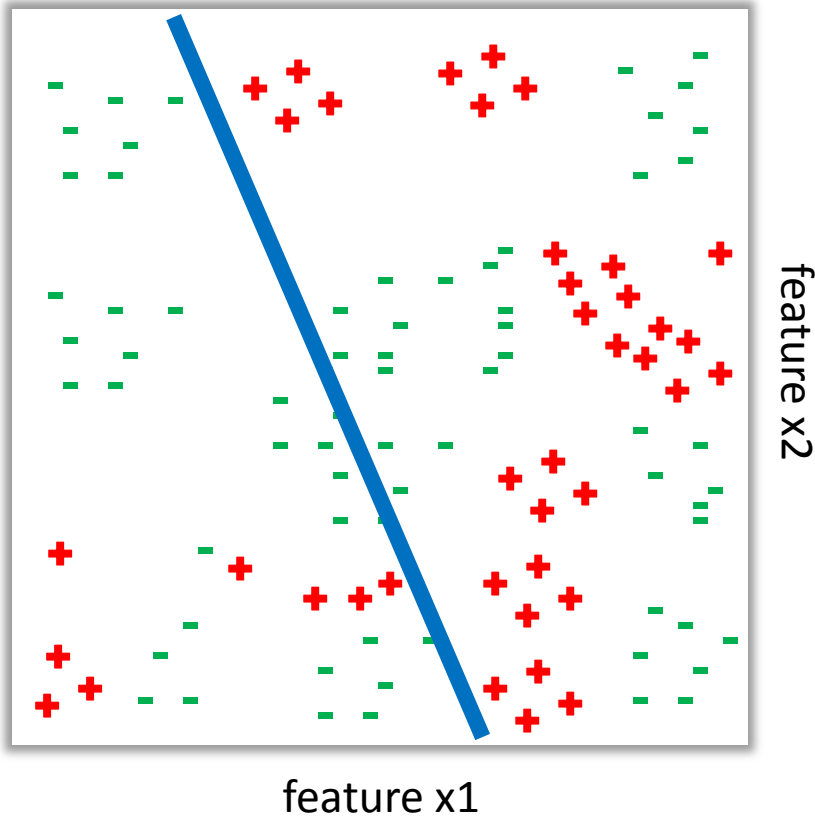


- + Positive Class
- Negative Class

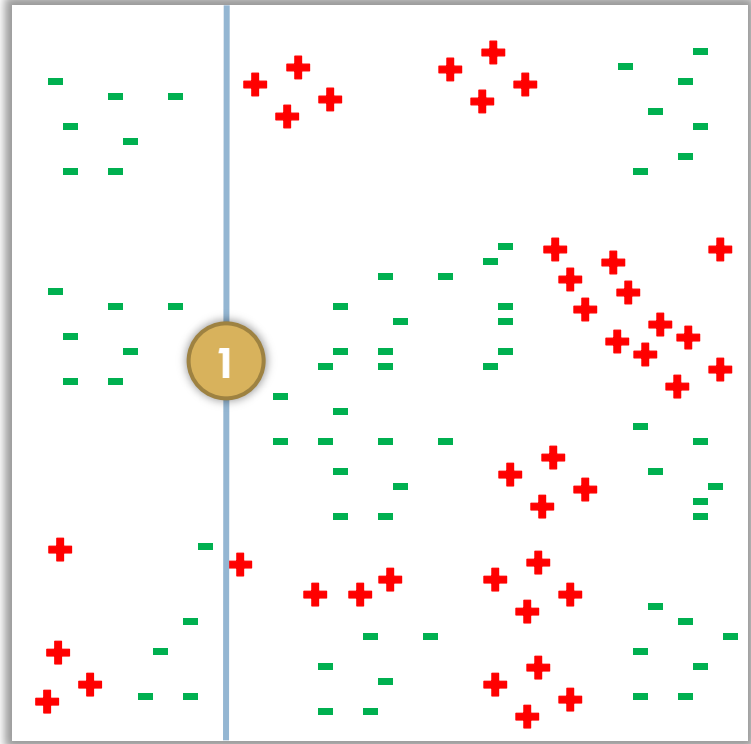


Feature Space

Feature Space



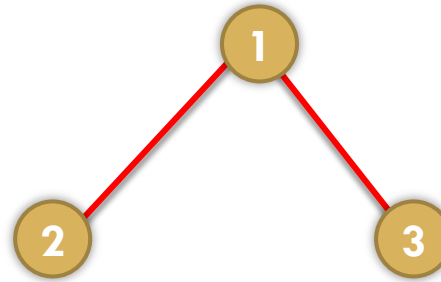
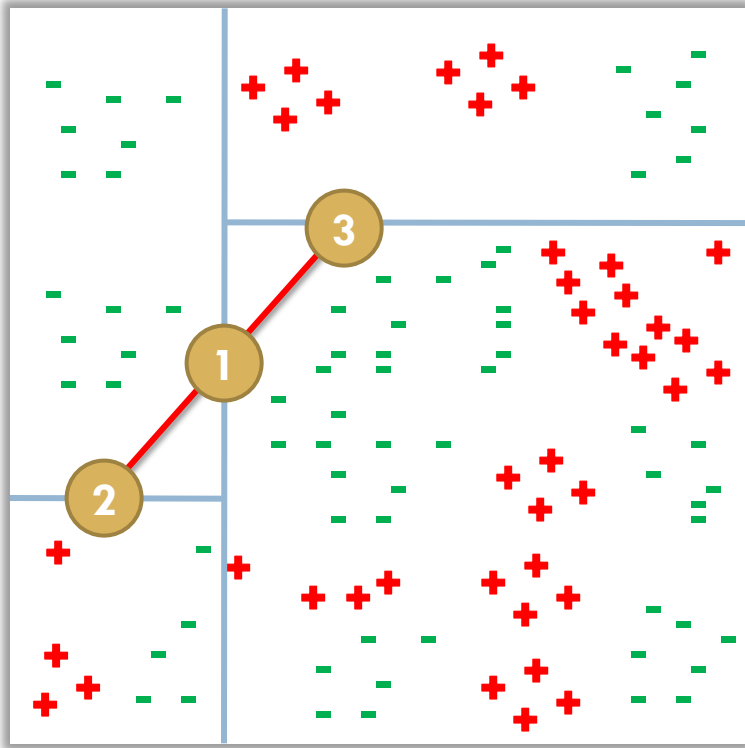
Tree Learning



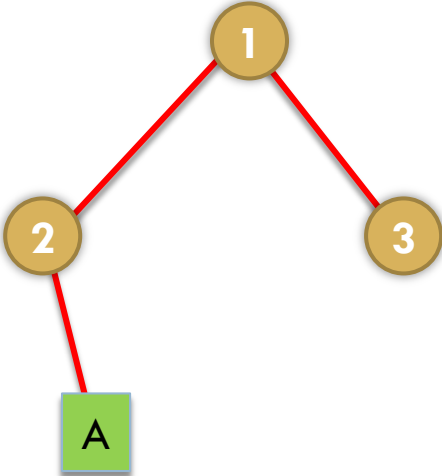
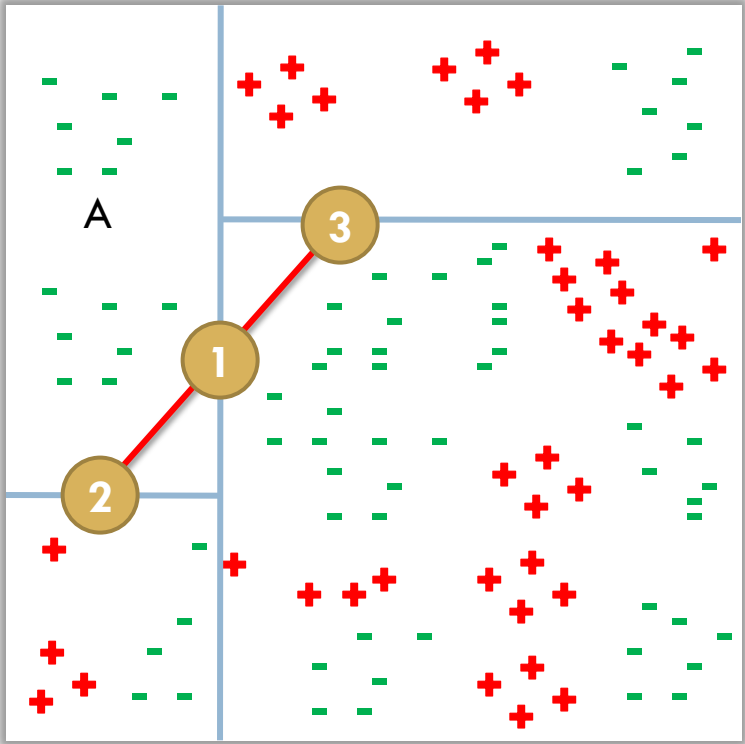
1



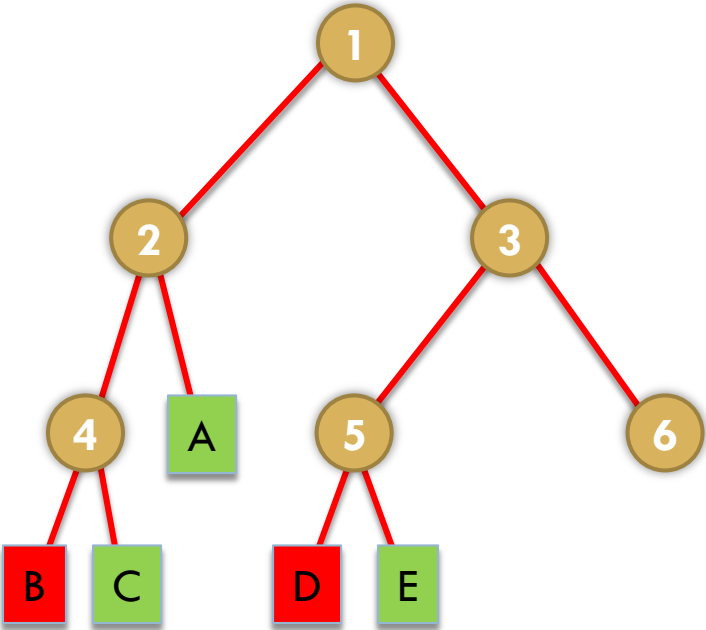
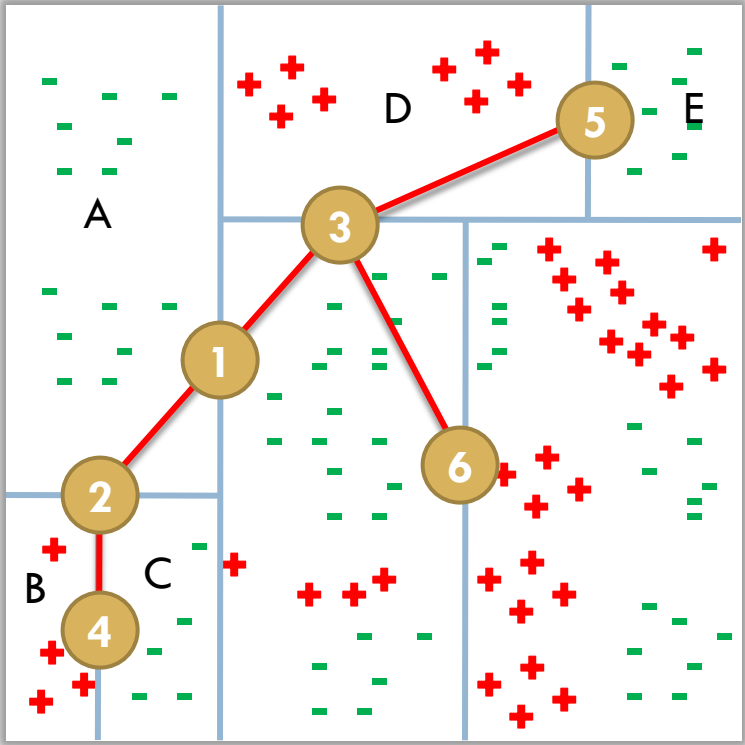
Tree Learning



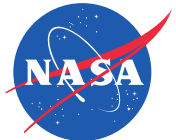
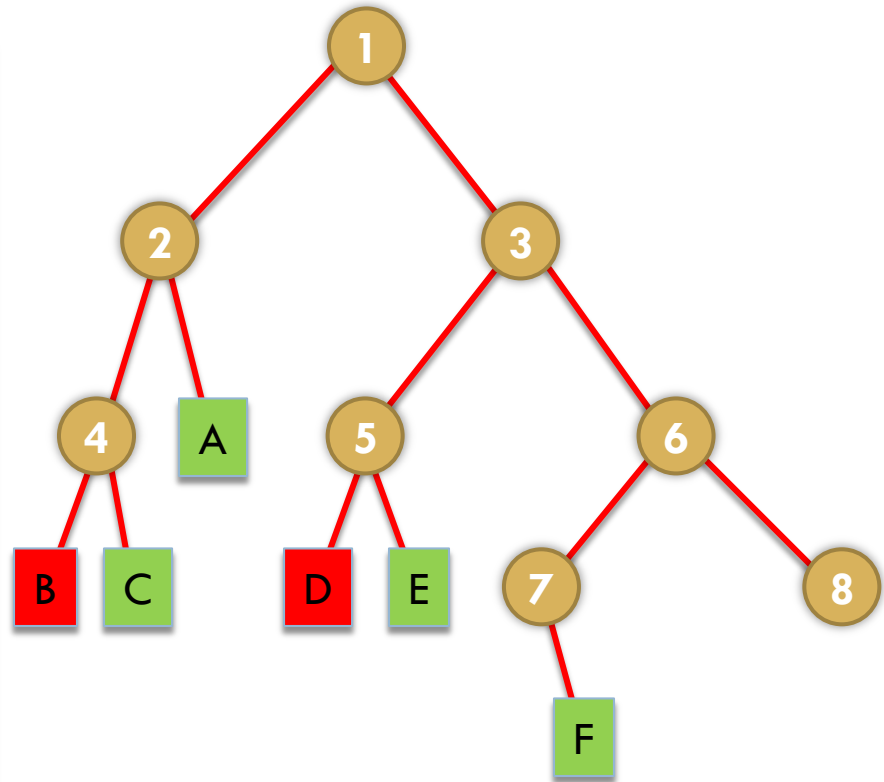
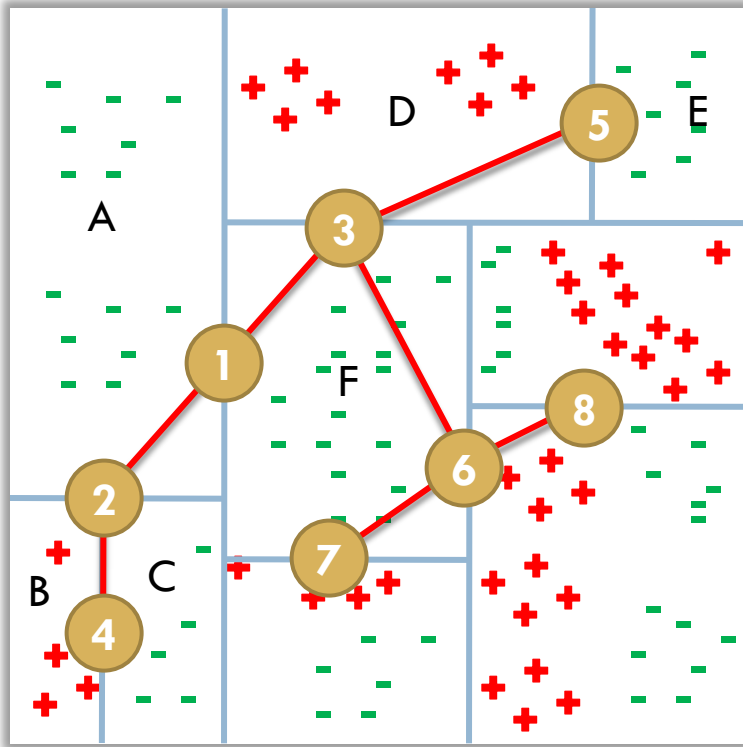
Tree Learning



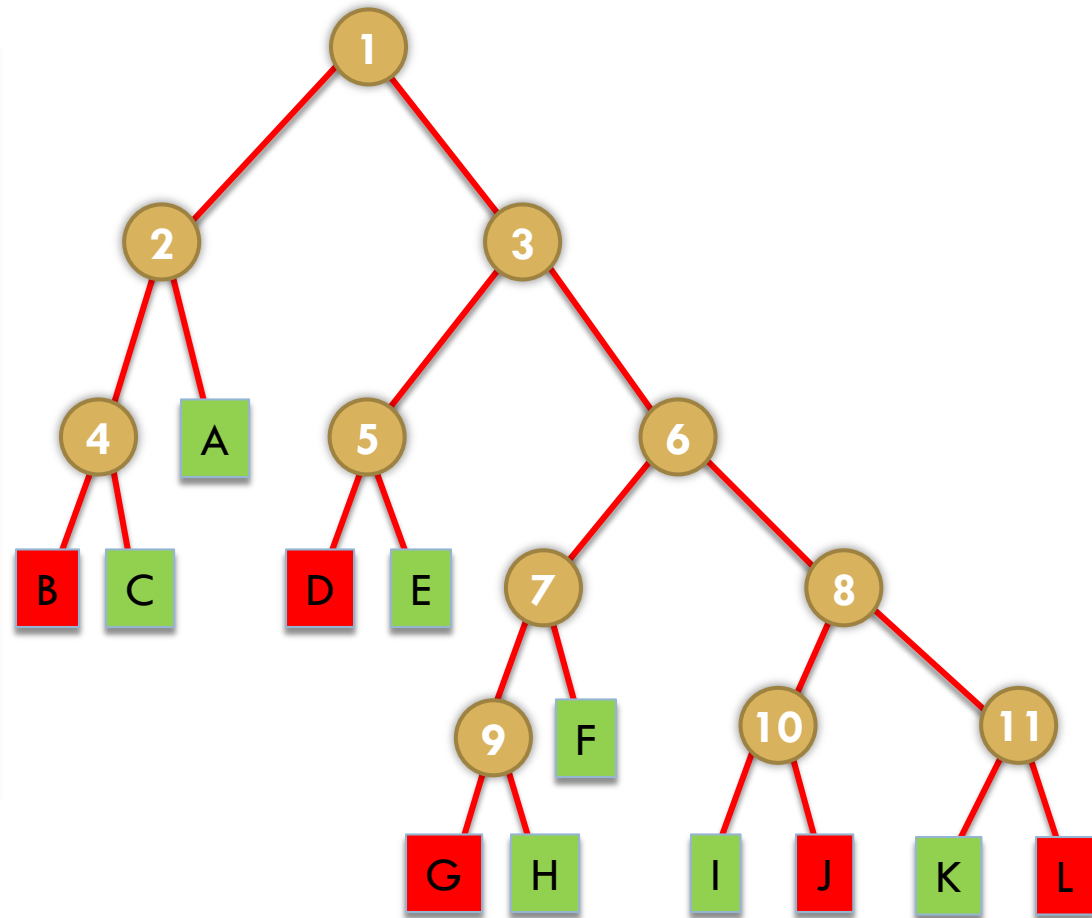
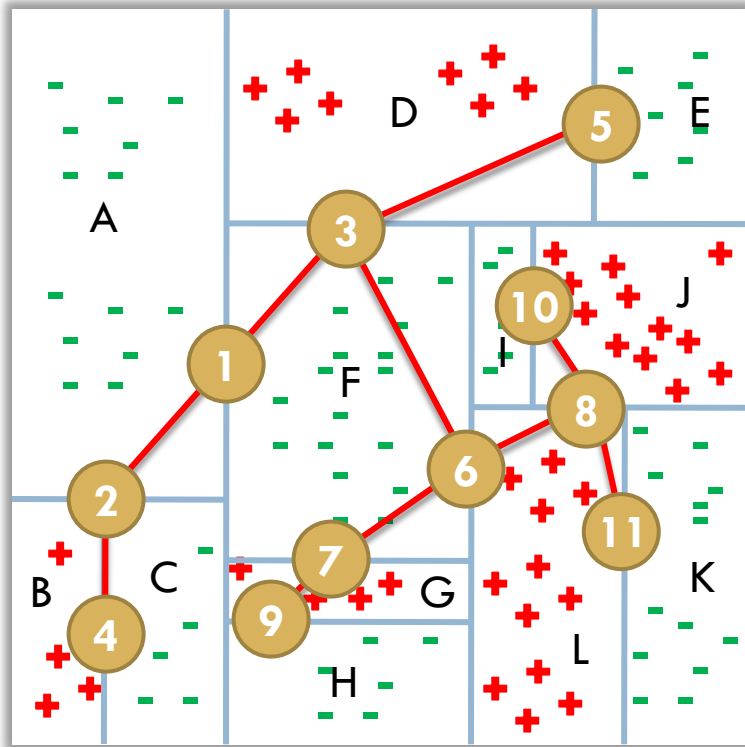
Tree Learning



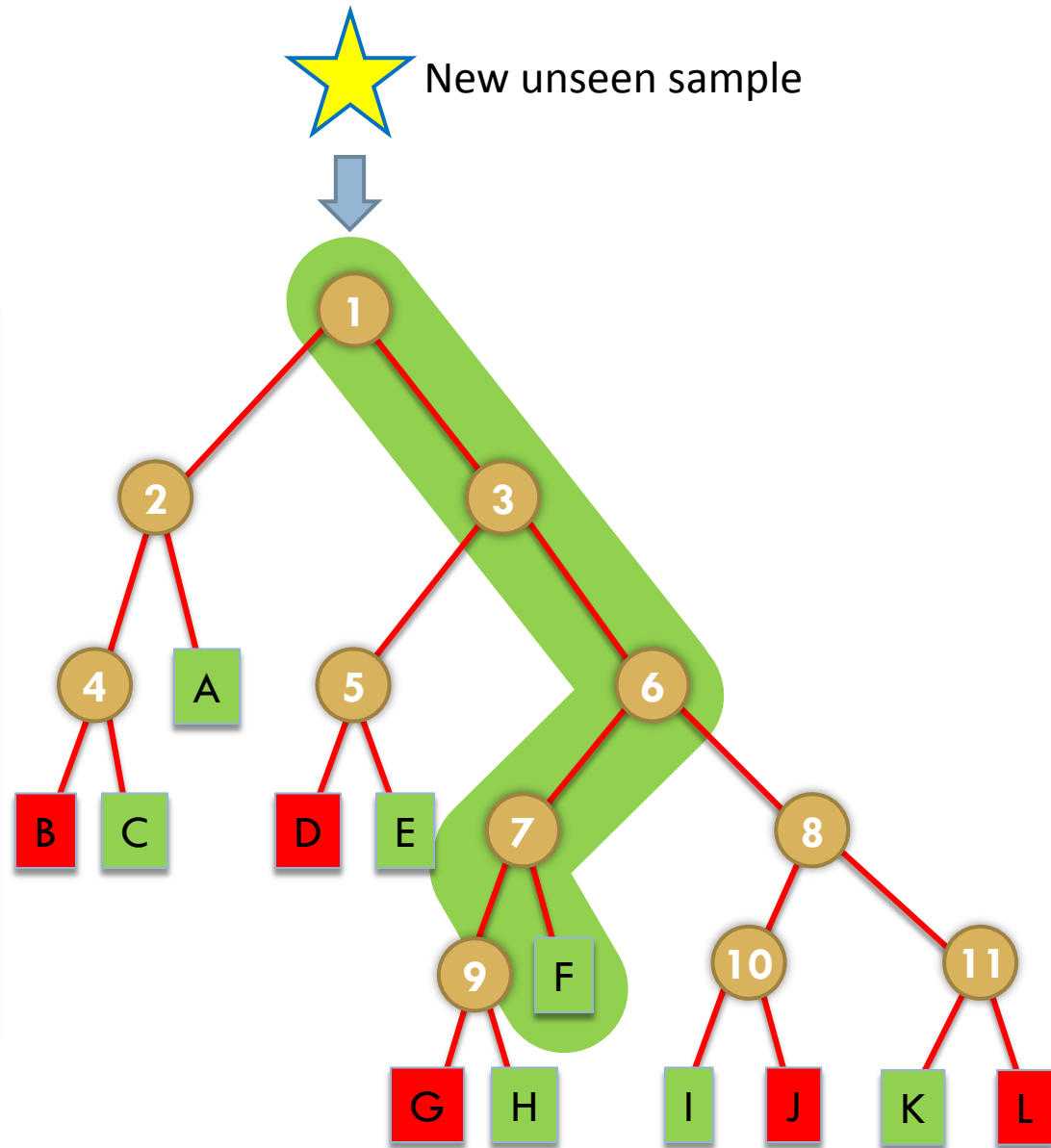
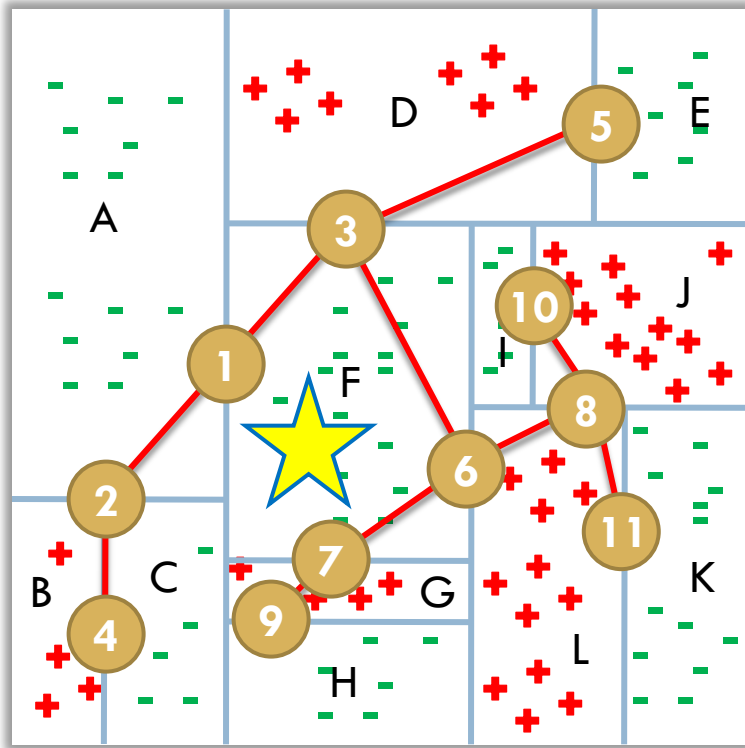
Tree Learning



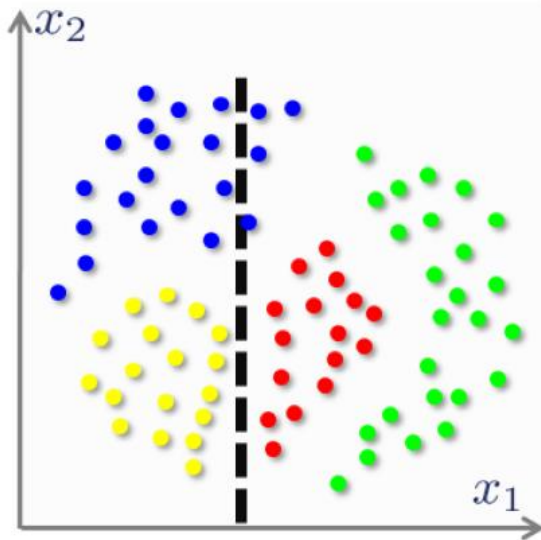
Tree Learning



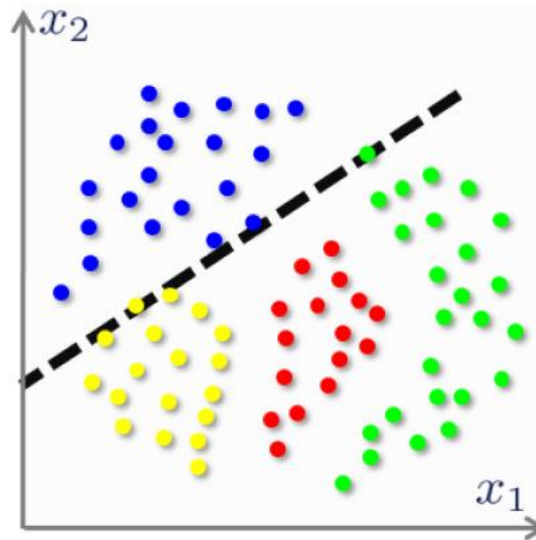
Tree Learning



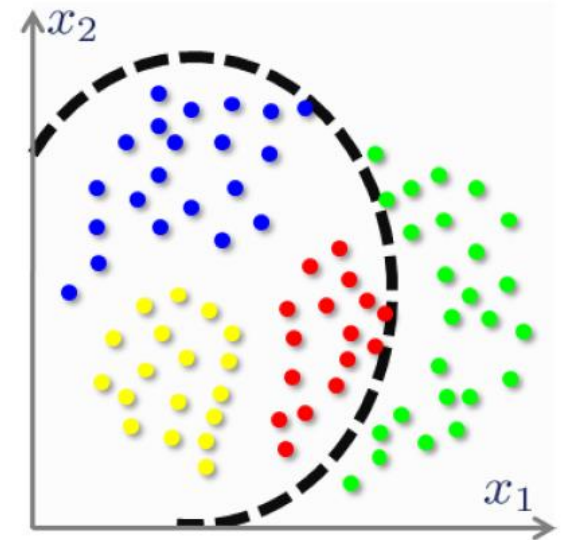
Weak Learners



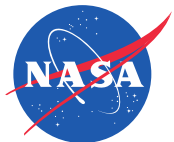
decision stump =
axis parallel split



linear combination



conic cut



Classification Tree

