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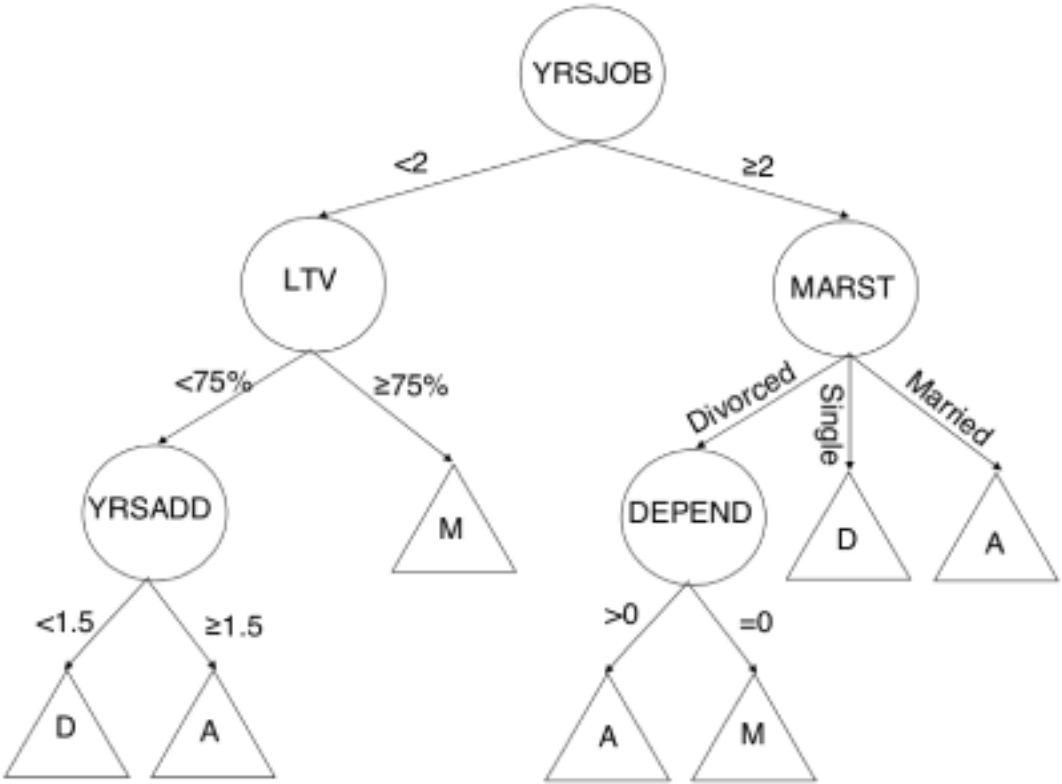
Decision Trees


YRSJOB
<2
≥2
LTV
MARST
<75%
≥75%
Divorced
Single
Married
YRSADD
M
DEPEND
D
A
<1.5
≥1.5
>0
=0
D
A
A
M

Rokach, Maimon. Data Mining with Decision Trees

Example: Processing mortgage applications
YRSJOB: Years at current job
YRSADD: Years at current address
DEPEND: # of dependents
MARST: marital status
LTV: loan-to-value ratio

- supervised learning
- classification or regression
- traditionally created manually
- tree-growing algorithms to optimize decision

Root

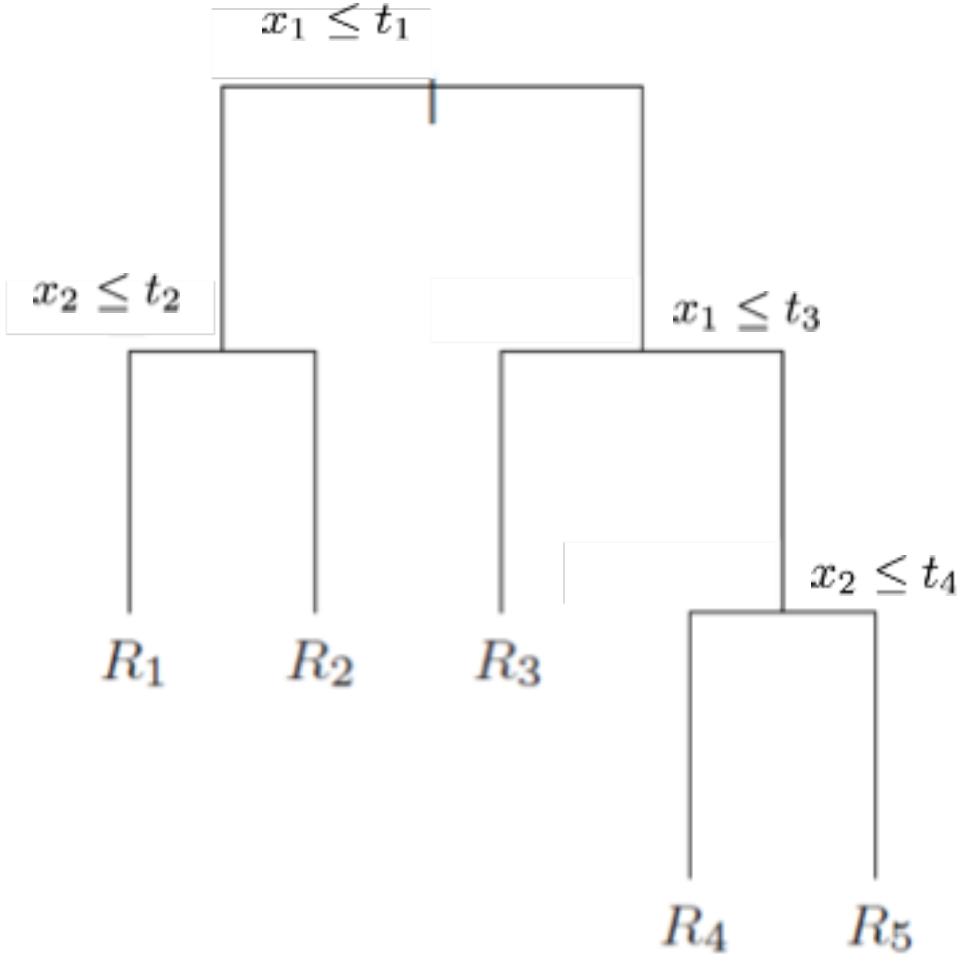
Node

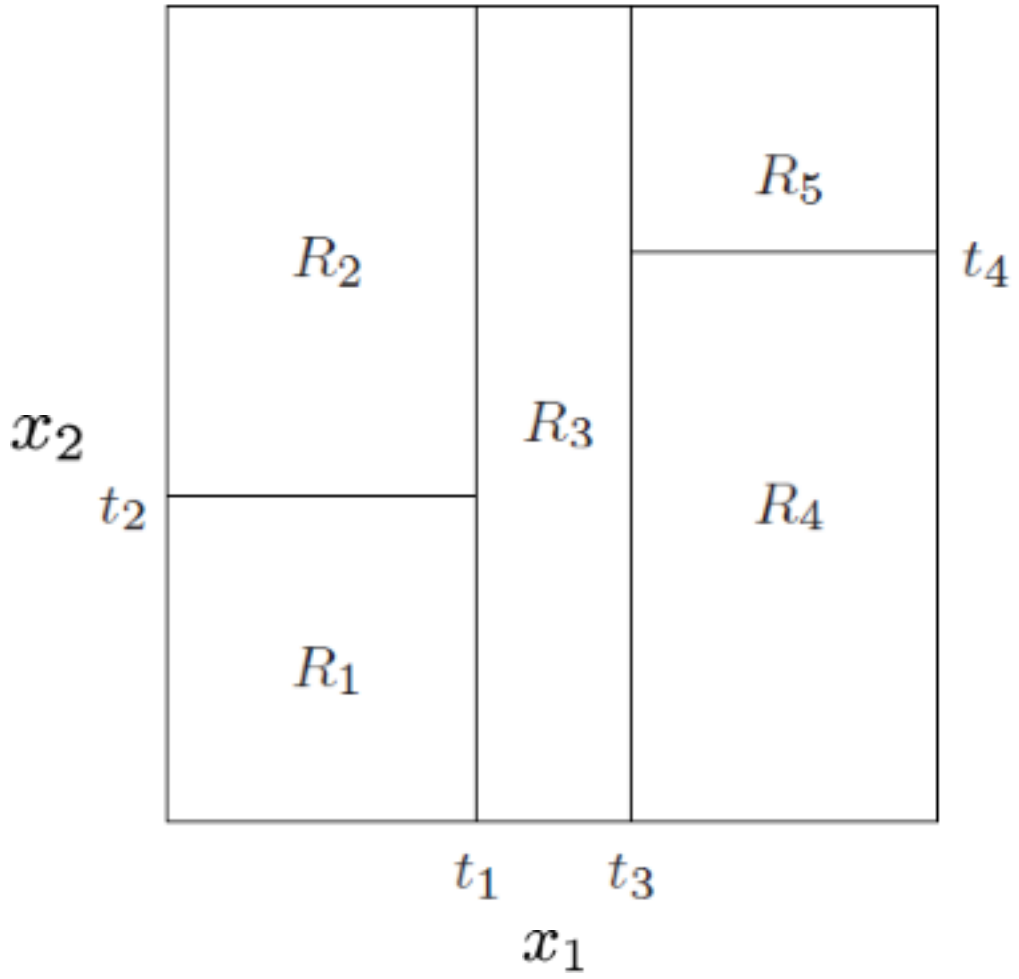
Leaf

Splitting

Decision Trees

- Decision tree is a recursive partition of the input space
- Most are *binary*





Hastie, Tibshirani, Friedman. Elements of Statistical Learning

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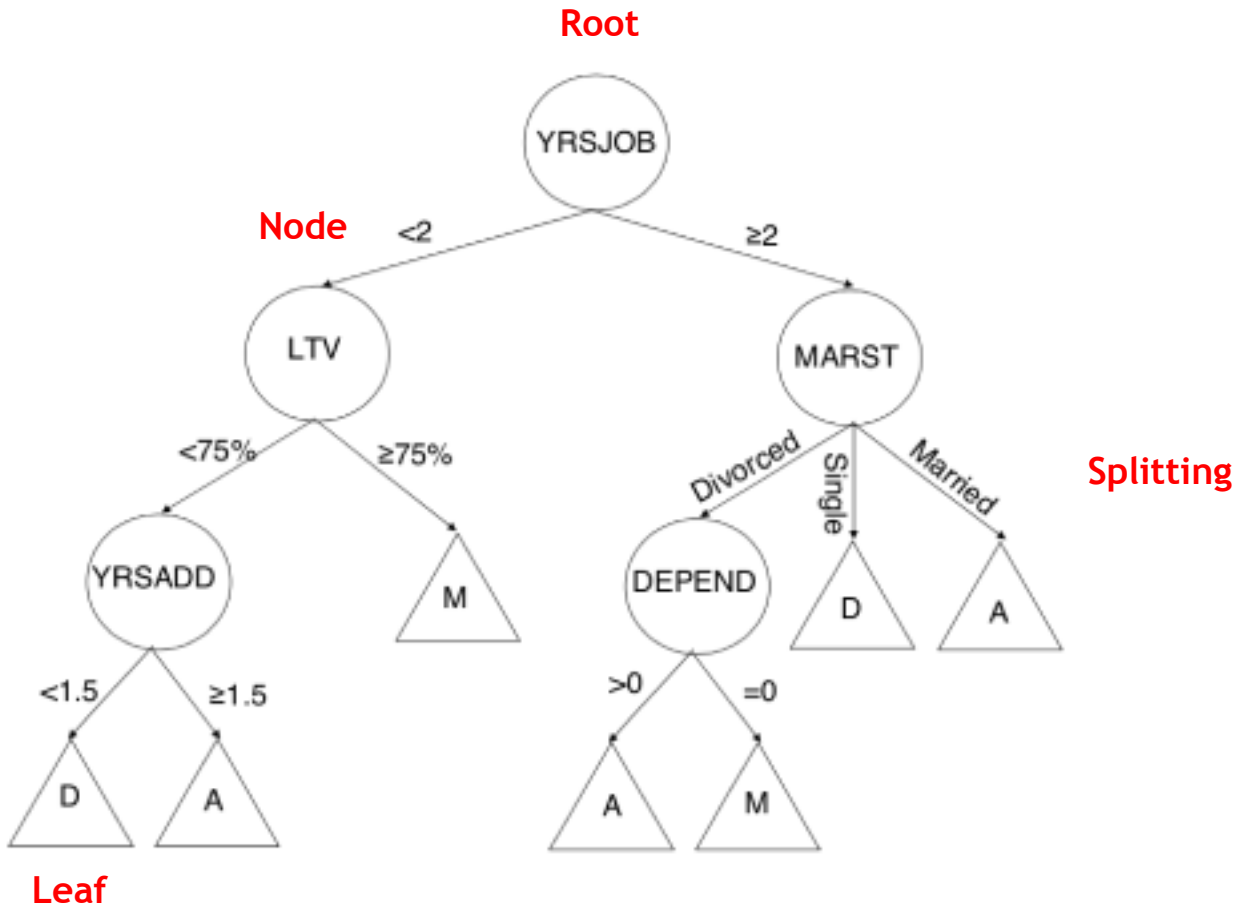
Decision Trees

- supervised learning $T : \mathbf{x} \rightarrow y$
- classification or regression
- traditionally created manually
- tree-growing algorithms to optimize decision



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