

# module 2: numerical optimization

DATA PROBLEM

RAW DATA  
housing data  
spam data

LABELS

DATA  
PROCESSING

REPRESENTATION

FEATURES

SELECTION

DIMENSIONS

LEARNING

CLUSTERING

SUPERVISED  
LEARNING  
numerical optimization  
Logistic Regression  
Perceptron  
Neural Network

PERFORMANCE

EVALUATION

train/test  
error, accuracy  
Cross Validation  
ROC

ANALYSIS

TUNING

