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(/learn/ml-classification/home/welcome)

# Boosting





One of the most exciting theoretical questions that have been asked about machine learning is whether simple

**∨** More

The amazing classification/lecture/3ywWA/the-idea of boosting-question)

a classifier



Slides presented in this module

(/learn/ml-classification/supplement/07FKm/slidespresented-in-this-module)



The boosting question 4 min

(/learn/ml-classification/lecture/3ywWA/the-boosting-

Help Center

question)



Ensemble classifiers 5 min

(/learn/ml-classification/lecture/IAous/ensembleclassifiers)



Boosting 6 min

(/learn/ml-classification/lecture/rV0iX/boosting)

#### AdaBoost



AdaBoost overview 3 min

(/learn/ml-classification/lecture/oyMBd/adaboostoverview)



( Weighted error 5 min

(/learn/ml-classification/lecture/vR1RK/weightederror)



Computing coefficient of each ensemble component 5 min

(/learn/ml-classification/lecture/t4tAK/computingcoefficient-of-each-ensemble-component)



Reweighing data to focus on mistakes 5 min

(/learn/ml-classification/lecture/in5T5/reweighingdata-to-focus-on-mistakes)



Normalizing weights 2 min

(/learn/ml-classification/lecture/LgKAF/normalizingweights)

### Applying AdaBoost



Example of AdaBoost in action 5 min

(/learn/ml-classification/lecture/um0cX/example-ofadaboost-in-action)



Learning boosted decision stumps with AdaBoost 4 min

(/learn/ml-classification/lecture/bx5YA/learningboosted-decision-stumps-with-adaboost)

#### Programming Assignment 1



**Exploring Ensemble Methods** 

(/learn/ml-

classification/supplement/aMrDF/exploringensemble-methods)



**Quiz:** Exploring Ensemble Methods 10 questions

(/learn/ml-classification/exam/FgzAt/exploringensemble-methods)

# Convergence and overfitting in boosting

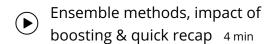


(/learn/ml-classification/lecture/hvl3Z/the-boosting-theorem)

Overfitting in boosting 6 min

(/learn/ml-classification/lecture/8SGv8/overfitting-inboosting)

## Summarizing boosting



(/learn/ml-classification/lecture/bQqTw/ensemble-methods-impact-of-boosting-quick-recap)



**Quiz:** Boosting 11 questions

(/learn/ml-classification/exam/UTPiQ/boosting)

#### Programming Assignment 2



Boosting a decision stump

(/learn/ml-classification/supplement/3TYwk/boosting-a-decision-stump)



(/learn/ml-classification/exam/0Z2ax/boosting-a-decision-stump)