Review

Just double checking...

Features vs Targets

- Features / Attributes
- Targets / Labels

Train - Test Split

- Train on training data **NOT** testing data
- Report scoring on testing data **NOT** training data
  - We determine the score on training data as a sanity check

Sklearn Estimators

Used to estimate a target value

- fit
- predict
- fit predict

Sklearn Transformers

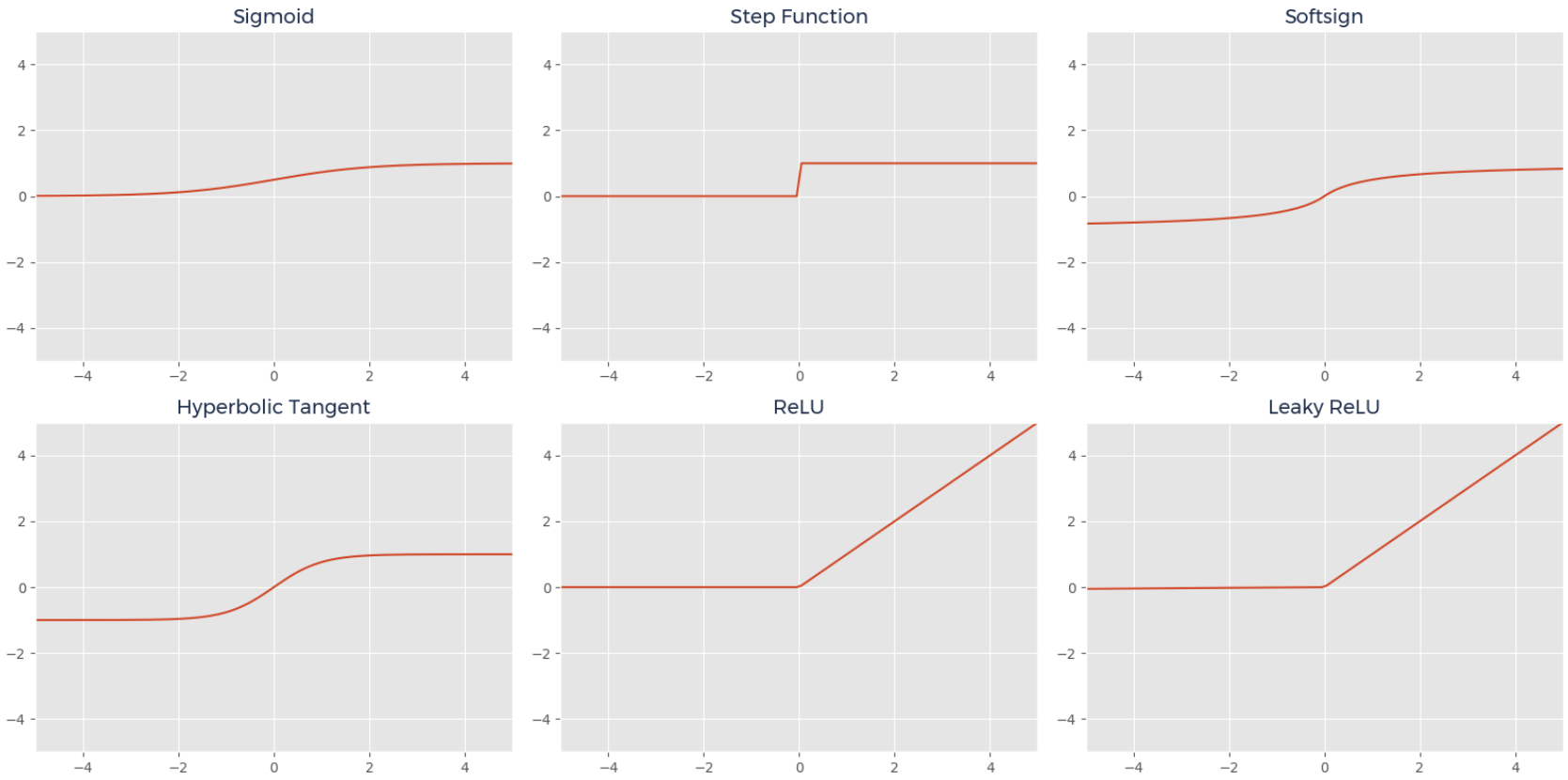
Used to transform data from one form to another

- fit
- transform
- fit transform

Activation Function Ranges

- Sigmoid - [0,1]
- Step - 0,1
- Softsign - [-1,1]
- Hyperbolic tan - [-1,1]
- ReLU - $[0, \infty]$
- Leaky ReLU - $[-\infty, \infty]$

Activation Functions



Softmax

Softmax normalizes the values so that they add up to one.

Output Layer Activation Functions

- Regression - must contain range of possible values
- Binary Classification - sigmoid or [0,1] range simulating probability of true class
- Multi-class Classification - softmax simulating probability of each class

Output Layer Units

Same number as what we need to predict

- Regression - number of Targets
- Binary Classification - 1
- Multi-class Classification - k

Questions

These slides are designed for educational purposes, specifically the CSCI-470 Introduction to Machine Learning course at the Colorado School of Mines as part of the Department of Computer Science.