

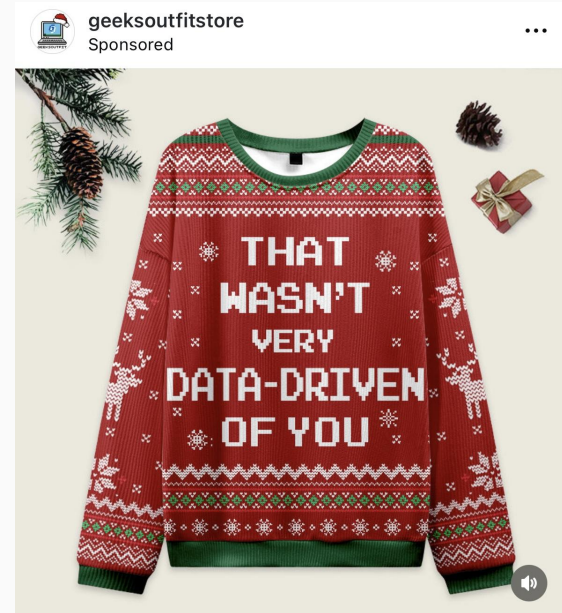
BST 219

Core Principles of Data Science

Lecture 26: Machine Learning continuing
December 5, 2024

Recipe of the Day!

Creamy Tomato Soup with Brown Butter Croutons

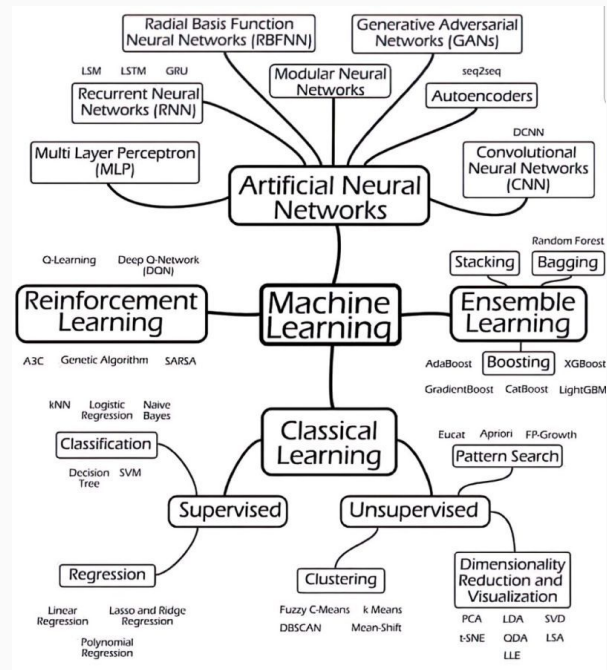


Happy December!

Agenda

- Announcements
 - Lab this week!
 - Homework #4 due December 16th by 11:59pm
 - Final projects have been assigned (see Canvas announcement for repo access) and TFs have been assigned
- Continue Machine Learning module

ML Mind Map



ML Algorithms Summary Table

Algorithm	Binary Classification	Multiclass Classification	Regression	Advantages	Disadvantages
QDA qda ()	✓	✓		Better performance over LDA when covariance structures differ across classes	Need a lot of data and computing resources due to high number of parameters Performance will suffer if covariance structure is similar across classes (this method assumes they are not)
LDA lda ()	✓	✓		Computationally efficient Outperforms QDA when covariance structures are similar across classes Needs less data than QDA	Will not outperform QDA if covariance structures differ across classes Strong assumptions about mean and variance distributions