

Question 1: What is the difference between empirical risk and structural risk?

- Empirical risk helps compose a structural risk minimization and is much more theoretical and specific to an algorithm, while a structural risk also takes into account the finite nature of a dataset and the strength of an algorithm to account for overfitting.

Question 2: Why is unsupervised training used when supervised training is available?

- Labeling data is very time consuming and may not be worthwhile. Unsupervised learning can be used for clustering and dimension reduction problems to find tendencies and patterns in large amounts of data that may be invisible to the human eye.

Question 3: What is the difference between a regression based model and a classification based model?

- Classification puts a distinct label on a result and has a discrete amount of results (i.e. gender, validity) while regression is based on continuous values (i.e. price, income, height)

Answer Question 1: Blue no red ...

Answer Question 2: African or European?

Answer Question 3: 42