Quiz

SDS 385

1. What does i.i.d mean?

2. What is the difference between clustering and classification?

3. How does the K-nearest neighbor algorithm for classification work?

4. Write down the definition of the largest singular value of a matrix as an optimization problem.

5. Are the eigenvalues and singular values of a symmetric square matrix the same? If not, what is their relationship?

6. If f is convex, and X is a random variable, then how are $f(E[X])$ and $E[f(X)]$ related?

7. Write down the definition of a symmetric positive-semi definite matrix. What do you know about its eigenvalues?