

CS 480/680 Homework 1
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Due Jan 21, 2026 - Before 11:59PM EST
©Marina Meilă
mmp@stat.washington.edu

Problem 1 – Drawing the Voronoi Diagram for 1-Nearest Neighbors

Given the following plot of points distributed across two classes, draw the corresponding Voronoi diagram regions for 1-Nearest Neighbors. Voronoi regions must be shaded and labeled as "Class 0" or "Class 1".

It is acceptable to draw this by hand.

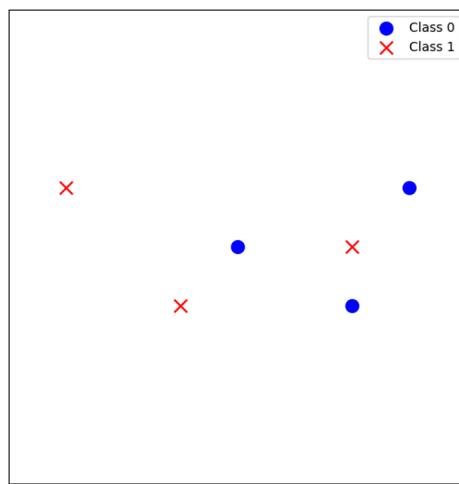


Figure 1: Enter Caption

Problem 2 – K-nearest neighbors

Your solution to this problem will be done in the attached Jupyter notebook template. Read through the notebook carefully and make sure there are no errors running all cells before submitting. Fill in each of the incomplete code sections, and answer the reflection questions.

There are several sections marked (**CS 680 only**). Only CS 680 students will be marked on these sections.

There is a **helpful formulas** section in the notebook. If you are confused what questions are asking you to calculate, these formulas should help.

Your submission for this question should be a filled-in Jupyter Notebook submitted to the assignment on LEARN.

Make sure the notebook runs without errors before submitting. Marks will not be awarded for sections that fail to run, and may lead to further sections failing to run.