**ECE 662, 2020S, Mini Project 3**

1. **Task 1**

K-means clustering: Consider N-dimensional feature vectors coming from C classes. Assume that the distributions of the feature vectors for the C classes are (known) normal distributions (with same priors).

Study (you can use available matlab/python libraries to perform K-mean clustering):

* C=2, 30 samples for each class: Give the visual clustering results when setting K=2, 3
* C=2, 1000 samples for each class: Give the visual clustering results when setting K=2, 3
* C=5, 30 samples for each class: Give the visual clustering results when setting K=4,5,6

1. **Task 2**

EM clustering: review a research article related to EM and give your analysis/thoughts.

**Notes**:

* Due date April 27th, 11:59pm
* Group work (max 3 persons) is encouraged, but separate report needs to be submitted (with different parameters). Also add your team members’ name
* Electronic submission to canvas
* Submission: a project report (doc, docx, or PDF), all executable code files, a readme file to introduce the code
* Matlab, or python is suggested. Other languages also acceptable.
* All codes need to have detailed comments in the file, especially close to your parameters, and subfunctions
* A readme file to introduce the codes files are required, explaining the flow and dependency