

# CSCI 3302: Introduction to Robotics

## Homework 3+4: Clustering and Classification

**Due Date: Dec 5, 2017 @ 11:55pm**

(Extra credit available: 2pts per day early, up to a maximum of 14pts)

Using Homework3.py as a base, implement the functionality required for K-Means clustering (50%) and K-Nearest Neighbor classification (50%). You may use numpy or any math library you prefer, though this is not necessary. You are not permitted to call k-Means or k-NN classifiers from other packages to implement your own.

The provided Python file will output your k-Means cluster centers and assess your kNN classifier accuracy using Leave-One-Out-Cross Validation. You are to complete this assignment on your own (without collaboration).

Submit your fully implemented Homework3.py file, as well as the hw3\_kmeans\_\*.pkl file containing your cluster centers to Moodle for full credit.