STAT 517 – Final Project Critique (Dean Taylor)

Topic: West Nile Virus (WNV) Prediction

Reviewed by Justice Nii-Ayitey

General Background

The research project aims to predict outbreaks of WNV and preemptively spray at specific times to reduce the spread of WNV. The dataset contains thousands of mosquito’s collections from the city of Chicago, with longitude and latitude location of collection, the genus and species, and if the mosquitoes contained virus mRNA.

Approach Used

Dean begun with a good introduction by explaining West Nile Virus being spread to humans from infected mosquito bite. There was also a target to do some EDA, by creating a map of the number of mosquitoes collected from traps across the city by different years.

Input

Though we know spraying insecticides kills the adult mosquitoes but there was a concern to the adult female mosquito who bites humans for blood. There was also a goal to optimize spraying by using years of trap collection data, along with locations and weather data, to find the best time for spraying to occur.

Analysis

Though he did well to explore many analyses, but I think they should have been well organized

for easy assessment.

General Assessment

In general, he was able to explore some good models such as naïve bayes, decision trees, random forest, logistic regression, support vector machine and others for classification and regression analysis which was good performance. He did well in his class presentation too.