Ideas for Capstone project

1. Prediction of gasoline grade from gasoline composition data

Gasoline grade determined by octane number which in turn is determined by experimental procedures. In this project, I propose to investigate if there is a correlation between octane number and other gasoline properties such as vapor pressure, API gravity etc and if it is possible to predict gasoline grade using such properties.

1. Visualization of urban heat island effect in Dallas metroplex area

The surface temperature of the urban center is significantly higher than that of surrounding area. This is known as Urban heat island effect and is observed in major urban centers around the world. In this project I propose to create a visualization of this effect in Dallas metroplex area by comparing the appropriate temperature metric of DFW with adjacent undeveloped/underdeveloped area.

1. Investigation of correlation between crude pipeline age and cause of crude oil spill

Frequency of crude oil spill from pipelines is increasing. While there are many reasons for the spill, age of the pipeline may be one of the major one. In this project, I propose to investigate the relationship between the age of the pipeline and reason for spill in cases of known spill in United States and Canada.