Capstone Project Ideas:

1) California Statewide Inpatient Mortality Rates, 2012-2013.

Dataset: http://www.healthdata.gov/dataset/california-statewide-inpatient-mortality-rates-2012-2013

Description of dataset: The dataset contains risk-adjusted mortality rates, and number of deaths and cases for 6 medical conditions treated (Acute Stroke, Acute Myocardial Infarction, Heart Failure, Gastrointestinal Hemorrhage, Hip Fracture and Pneumonia) and 6 procedures performed (Abdominal Aortic Aneurysm Repair, Carotid Endarterectomy, Craniotomy, Esophageal Resection, Pancreatic Resection, Percutaneous Coronary Intervention) in California hospitals for 2012 and 2013. This dataset does not include conditions treated or procedures performed in outpatient settings. Please refer to hospital table for hospital rates.

Question: how the rate of in-hospital mortality across all facilities in California is correlated with the diagnoses and procedures performed (payment) during an inpatient stay.

2) Obesity prevention across students in NYC.

Dataset: https://health.data.ny.gov/Health/Student-Weight-Status-Category-Reporting-Results-B/es3k-2aus

Description of dataset: The Student Weight Status Category Reporting System (SWSCR) collects weight status category data (underweight, healthy weight, overweight or obese, based on BMI-for-age percentile). The dataset includes separate estimates of the percent of students overweight, obese and overweight or obese for all reportable grades within the county and/or region and by grade groups (elementary and middle/high). The rates of overweight and obesity reported are percentages based on counts of students in selected grades (Pre-K, K, 2, 4, 7, 10) reported to the NYSDOH. Because these rates reflect a broad range of factors that vary by school district, to make comparisons about observed differences in the rates of obesity and overweight between school districts requires the use of multivariate statistics. County, regional and statewide estimates will only be provided biennially, District estimates will be updated annually.

Question: how student weight status is correlated with the household income, school ranking, and district.

3) How recessions in the USA affected unemployment rate and housing prices in Boston?

Dataset: http://www.bostonfed.org/economic/neei/neeidata.htm

Description of dataset: Federal Reserve Bank of Boston data

Question: Boston unemployment, Boston house pricing, compared to USA unemployment and USA housing pricing, during recessions in USA, compared to market performance