Capstone Project 1

Idea 1

Stock market trading & data wrangling using pandas

* Key objectives
  + Model financial data & calculations
  + Use time series
  + Stock movements and predictions
  + Algorithm based trading using google trends – moving averages, exponentially weighted averages, crossovers.. etc.,
  + Build portfolio
* Extended objectives for the Main Project
  + Exploratory data analysis - to find new relationships between existing variables
  + statistics-based inferential analysis would help to describe a bigger population using small data sample
  + Predict the future from the past using  predictive analyst
  + Using Causal analysis identify variables that affect each other.
  + Using Mechanistic data analysis explore exactly how one variable affects another variable.

Idea 2

Dataset: San Francisco Police Department Incident data from Jan 1st 2003.

|  |  |  |
| --- | --- | --- |
| Column Name | Column Type | Description |
| IncidntNum | Int64 | incident number |
| Category | Object/string | incident category |
| Descript | Object/string | Incident description |
| DayOfWeek | Object/string | Incident day of the week |
| Date | Object/date | Incident date |
| Time | Object/string | Incident time |
| PdDistrict | Object/string | Incident PD district |
| Resolution | Object/string | Incident resolution |
| Address | Object/string | Incident address |
| X | Float64 | Incident  Latitude |
| Y | Float64 | Incident Longitude |
| Location | object | Incident location |
| PdId | Int64 | PD identification number |

Project Basic Objectives set on April 15th 2017

1. What are the top 3 locations for the incidents
2. What are the top 3 districts for the incidents
3. What are the unique category types
4. Can we define sub categories from the descript column
5. Split the date into year, month - to plot the above with every over year, month over moth comparison
6. Plot incident category type on day of the week and summarize the findings, do the same for month and year
7. Create the heat map day of the week vs hours/month/year for each month/year

Idea 3

SFO Air Traffic Passenger Stats