Crime Time
Together With Weather

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Project Description & Question

- Our data focuses on crimes & weather and when they occurred in Denver, involving the time of day/week/month/year.

- The question we wanted to answer with this data: What are the correlations (if any) between weather, crime, time, and location (Denver area).

Data Preparations

1. Data cleaning (Removal of outliers, useless data, and traffic accidents)

2. Load data into MySQL database

3. Combine and average weather data

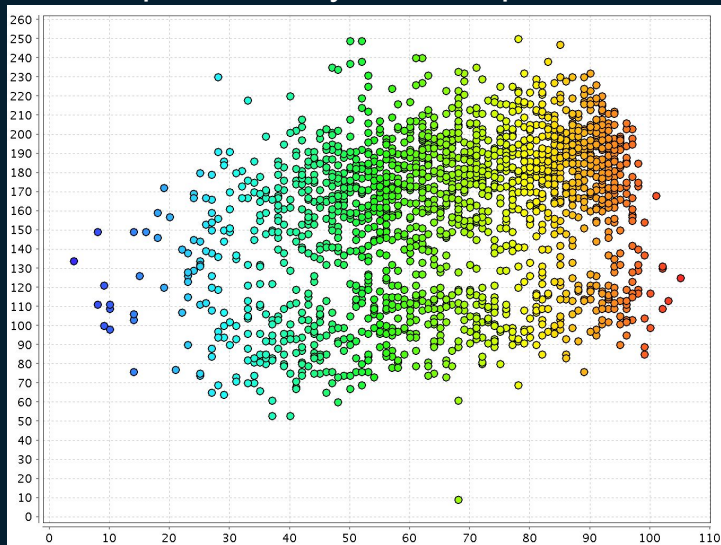4. Matchup weather data with crime data

Tools We Used

- Excel

- Python/matplotlib

- MySQL Server
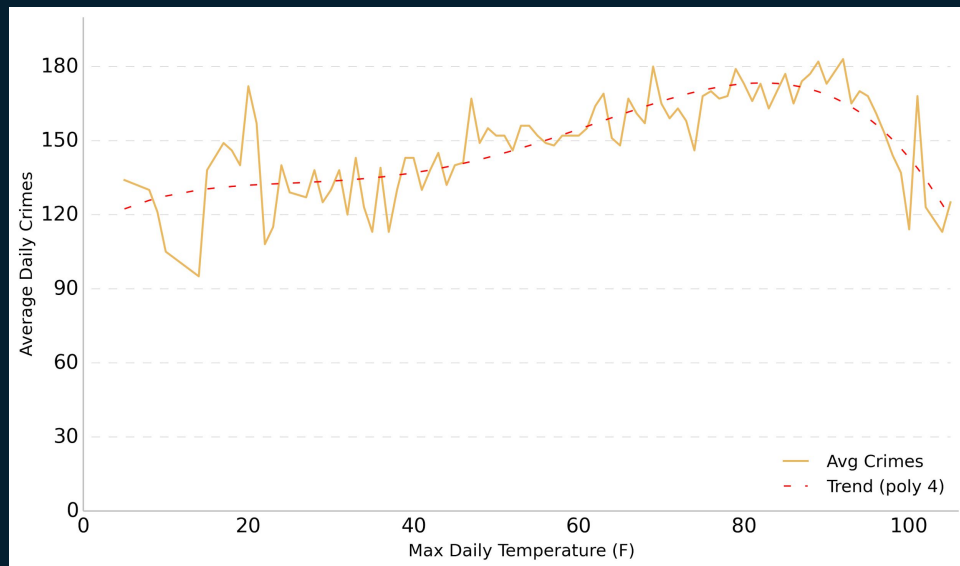
- RapidMiner

- Jing

Crimes vs Daily Temperature

- Grouped crime/weather data by date

# of crimes occurring on a day and the respective daily max temperature
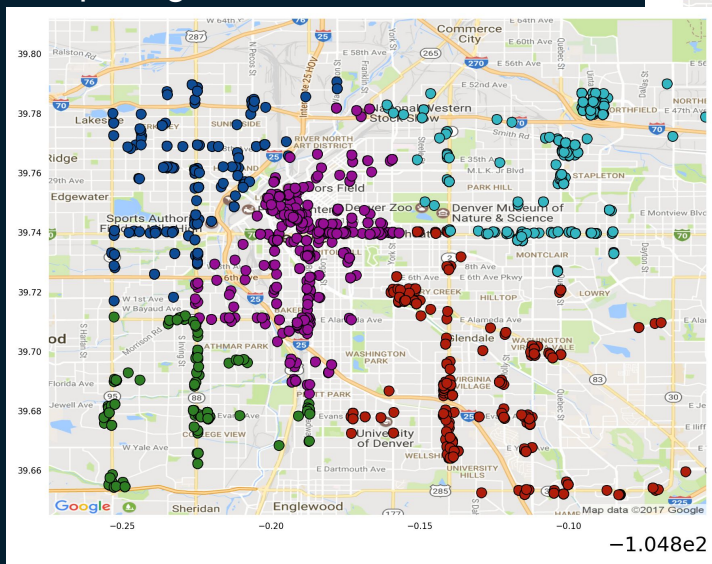

Avg →

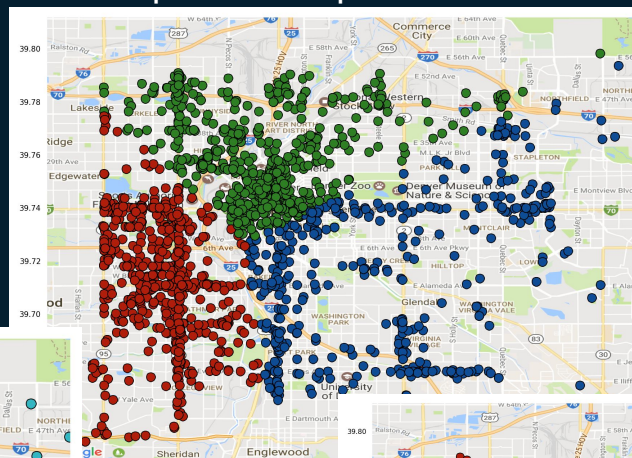- Trend curve: polynomial regression

Clustering

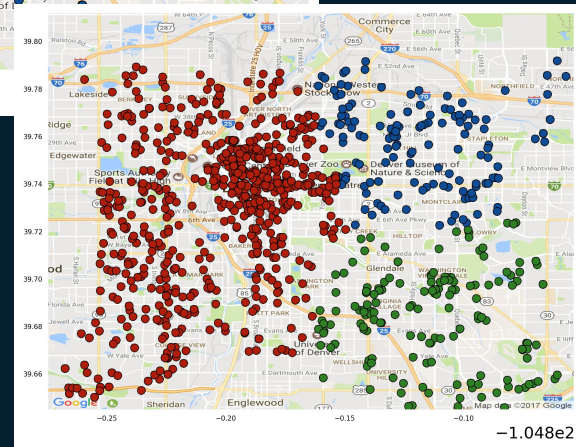## K-means clustering
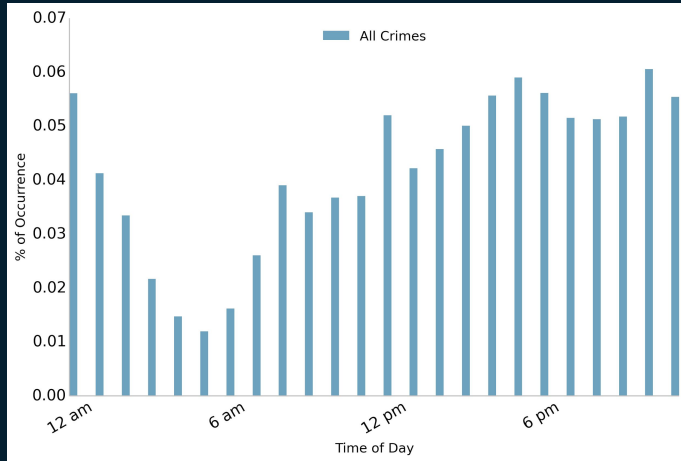- long. and lat. values from crime location

Methamphetamine possession

Shoplifting

Harassment

Background maps: Google Static Maps API

Crimes by Hour

- Percentage of crimes occurring per hour
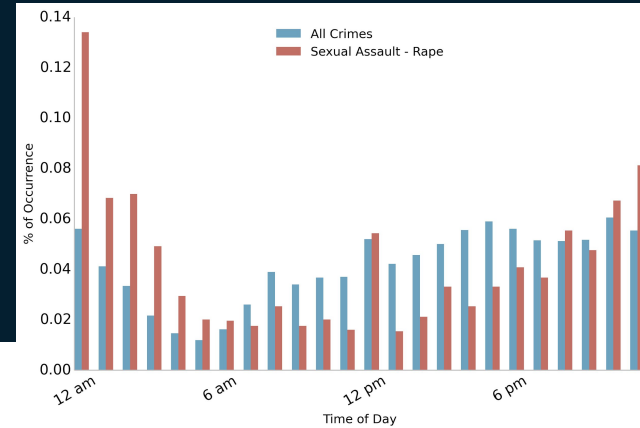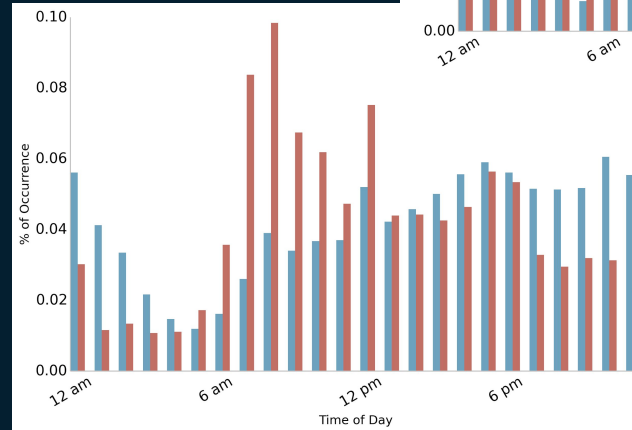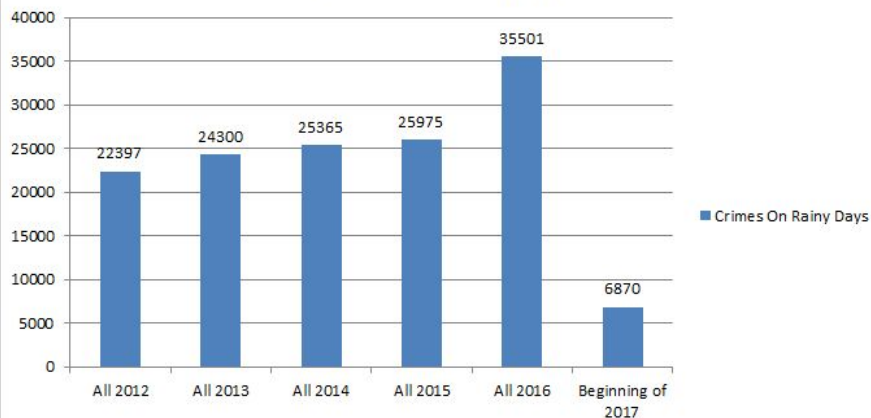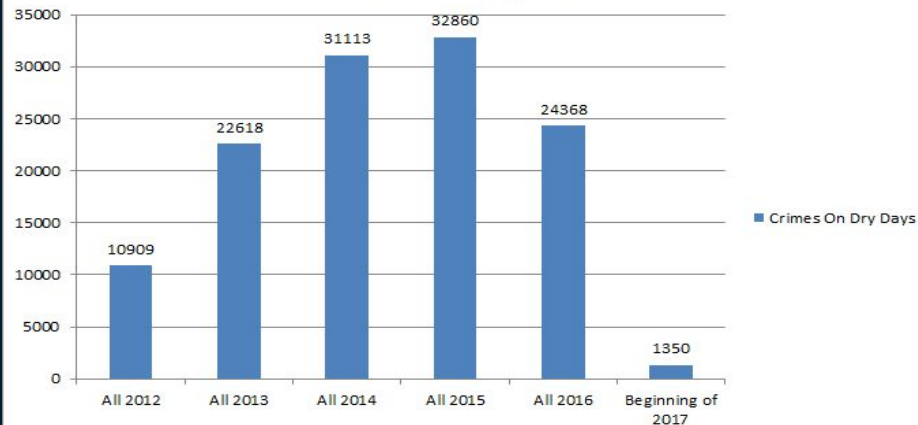
Rain

- Crime and weather Data grouped by date, clustered by precipitation amount
- Compared average number of crimes on rainy days vs. days with no rain

Crimes On Rainy Days

All 2012	22397
All 2013	24300
All 2014	25365
All 2015	25975
All 2016	35501
Beginning of 2017	6870

Crimes On Dry Days

All 2012	10909
All 2013	22618
All 2014	31113
All 2015	32860
All 2016	24368
Beginning of 2017	1350

Knowledge Gained & Application

- Peak numbers of crime occurred around 85 °F

- Least likely crime time: 5am

- Most likely crime time: 10pm

- More crimes occurred when rain was present