

Project 2

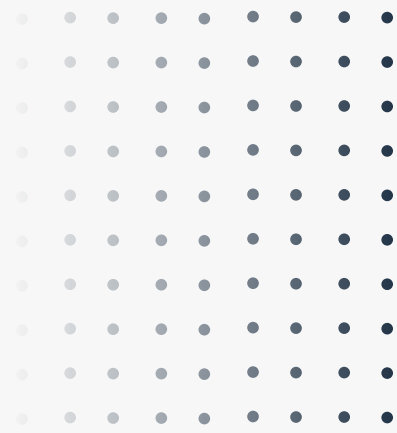
Mathew Johnson
Leanne Porter
Amber Van Harskamp

Crime in Victoria

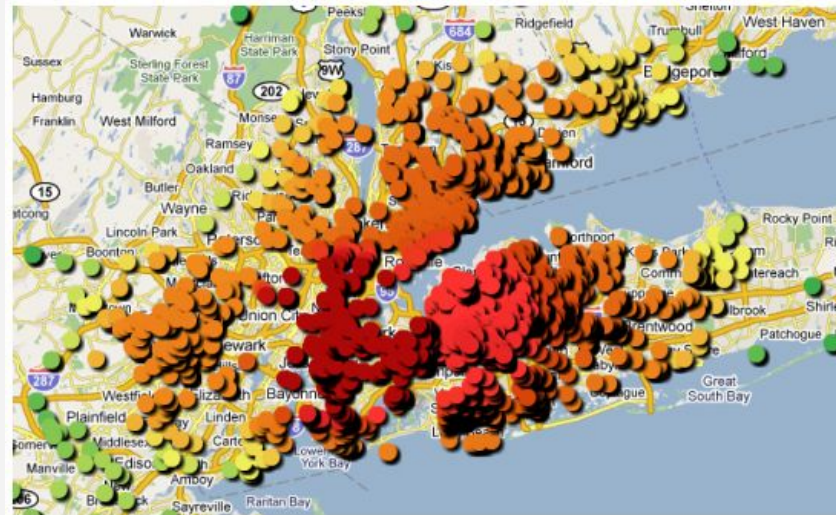
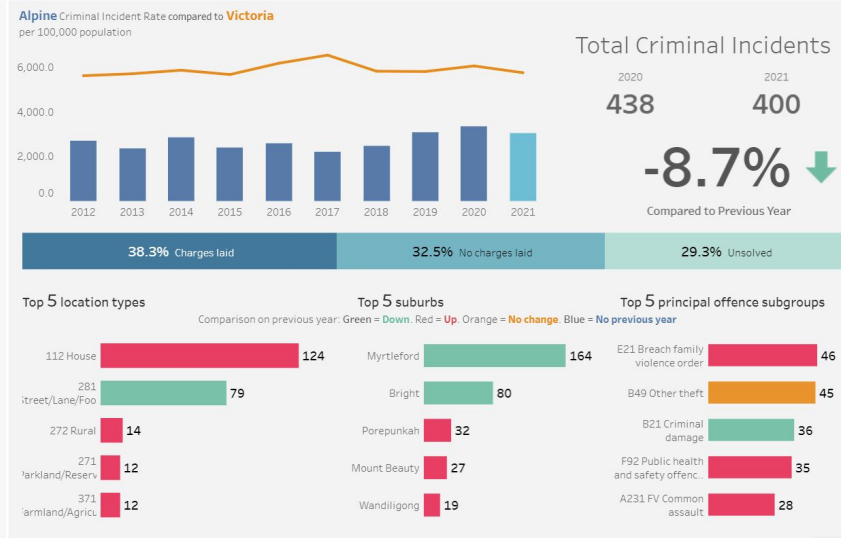


Project Aim: to create a dashboard which a user can interact with to see a snapshot of the prevalence of crime in Victoria.

Scope: Types of crimes committed, the number of incidents, the location (suburb) and year.



Inspo



Latest from the newsroom →

- B** Three Somerville High soccer players arrested on rape charges <http://b.globe.com/15FZ9rK>
by The Boston Globe via twitter on 8/30/2013 at 11:09:23 PM
- B** #TimTebow not among the 10 cut from the #Patriots roster today <http://b.globe.com/15FaS9W>
by Boston Globe Sports via twitter on 8/30/2013 at 10:55:48 PM
- B** Judge declines to rule on motions from #AaronHernandez defense team <http://b.globe.com/15FDQqf>
by Boston Globe Sports via twitter on 8/30/2013 at 10:55:27 PM
- B** "I just feel it's such a betrayal of a certain part of humanity that we don't stand up for the arts" –

NEWS BRE



Part 1: ETL PROCESS



Extract: Data Sources

- Vic Government Crime Statistics site
 - Criminal offences by LGA
- Suburb longitudes and latitudes
 - Google Map API
- News headlines (web scraping)
 - Victorian crime news



Transform:

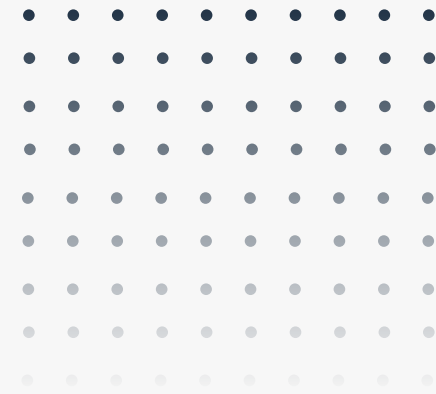


- Crime offences csv file
 - Rename columns
 - Remove unwanted columns
 - Change numbers to floats.
- Suburb longitudes and latitudes
 - Create unique list of suburbs to limit data retrieval
 - Google Maps API – retrieve Latitude and Longitude



Merge into 1
dataframe

Load:



- Created Database to import data

- QuickDBD
- PostgreSQL
- PGAdmin



- Loaded cleaned data into database via Pandas

- MongoDB created - Used for webscraping



Part 2: CREATION



APP CREATION



- Created queries using sqlalchemy in Jupyter notebook.
 - Easier to check code worked correctly.
 - Separate routes for each visualisation/step.
- 12 app routes in total:
 - 2 -> display page (Welcome + data tab)
 - 2 -> related to web scraping
 - 1 -> populate drop down menu
 - 3 -> generate map data
 - 3 -> generate graphs/stats
 - 1 -> generate the data tab

A screenshot of a web browser window. The address bar shows '127.0.0.1:5000/api/v1.0/incidents'. The page content displays a JSON array of incident data. The browser's tab bar shows 'Apps', 'Welcome to the Da...', 'BCS', and 'Online Course'.

```
[
  [
    2021,
    "Melbourne",
    "B40 Theft",
    3194
  ],
  [
    2021,
    "Melbourne",
    "F90 Miscellaneous offences",
    2722
  ],
  [
    2021,
    "Melbourne",
    "E20 Breaches of orders",
    1377
  ],
  [
    2021,
    "Preston",
    "B40 Theft",
    1300
  ],
]
```



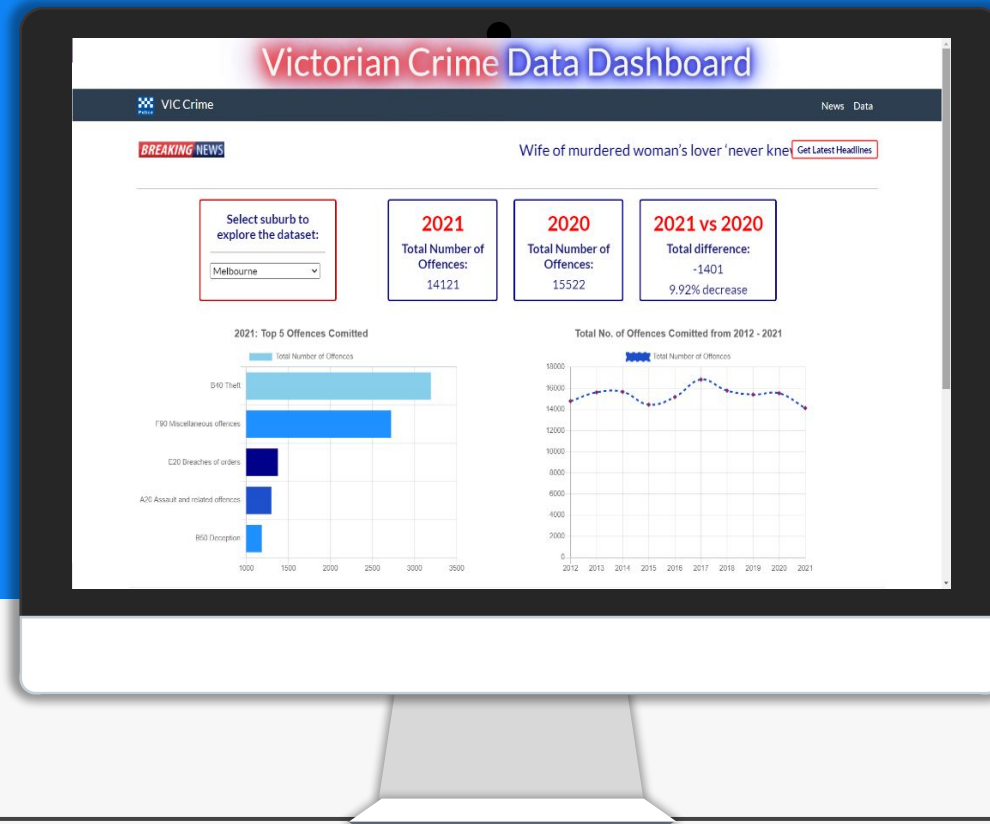
DASHBOARD CREATION TOOLS

- D3.js
- Chart.js
- Bootstrap
- Bootswatch
- Mapbox
- Leaflet
- HTML



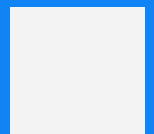
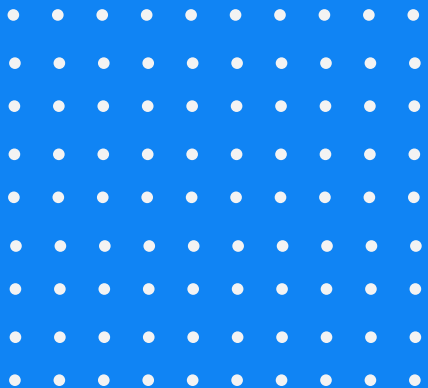
Part 3:

DEPLOYMENT





Any Questions?





Thank you!

