

Hello!

I am Fiona Milne

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From Zero to Data Science Hero in 1 Week



R
Well,
obviously.



City of Melbourne Open Data Portal

<https://data.melbourne.vic.gov.au/>



BigQuery

- data warehouse
- cloud
- serverless
- fast & cheap
- pay-as-you-go
- open datasets
- pre-canned ML models



Google Cloud Platform

What I had

- 34GB
- 20k+ sensors
- arrival times
- departure times
- 2011-2016

What I needed

A way of predicting, given hour of the day and day of week, how likely a bay is to be occupied

How I got there

```
install.packages(bigrquery)
```

```
library(bigrquery)
```

```
sql <- “with a as (select DeviceId, ArrivalTime,  
timestamp_add(ArrivalTime, interval durationseconds  
second) as DepartureTime from  
`eliiza-sandbox.parking.parkingevents2012` ) etc”
```

```
project <- "eliiza-sandbox"
```

```
occupancy_rate <- query_exec(sql, project,  
use_legacy_sql = FALSE)
```





Select a day/time of the week:

Mon

Tues

Wed

Thu

Fri

Sat

Sun



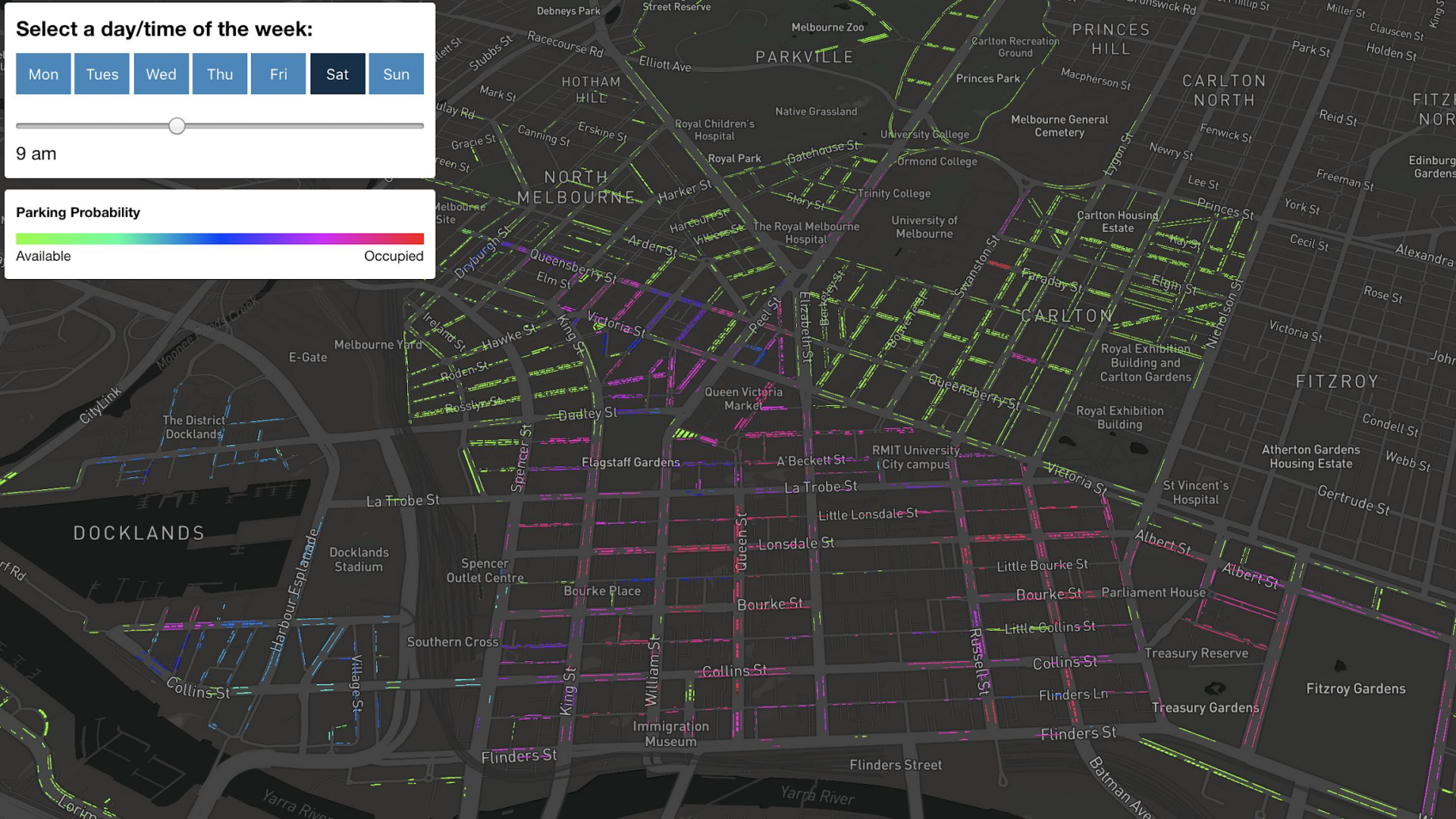
9 am

Parking Probability



Available

Occupied



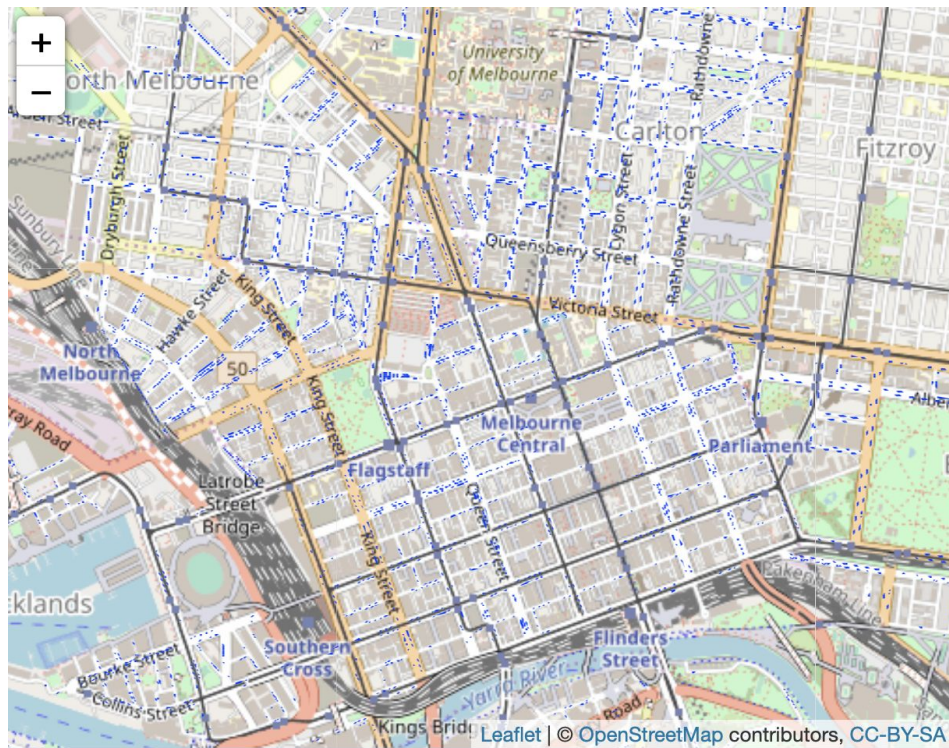
But...

But...

```
map <-  
geojsonio::geojson_read("parking.json",  
  what = "sp")
```

```
pal <- colorNumeric("viridis", NULL)
```

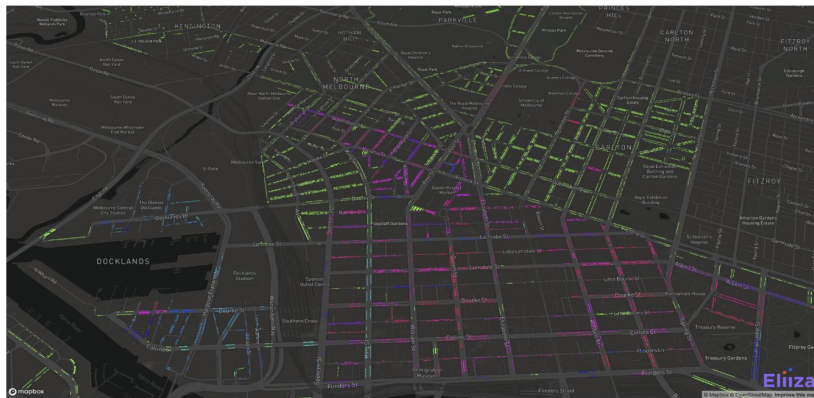
```
m <- leaflet(map) %>%  
  addTiles() %>%  
  addPolygons(stroke = FALSE,  
    smoothFactor = 0.3, fillOpacity = 1)
```



Applause from Vaughan Stedman, Brenda Milne, and 21 others



Fiona Milne
Jun 20 · 4 min read



Visualising on-street parking in Melbourne with open data

Recently, the Eliiza team decided we wanted to wrangle some **large, local, geospatial** data to build something insightful, useful & pretty.

You can play around with what we ended up building here
<https://demos.eliza.ai/melb-parking/>

107

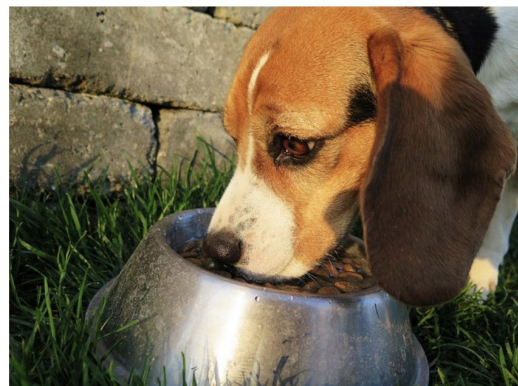


We saw this as a good opportunity to leverage:

- **Mapbox**—an open source mapping platform for custom designed maps
- **BigQuery**—GCP's serverless data warehouse
- **City of Melbourne's Open Data Portal**

We were keen to build something we could dogfood.

Oh, and did I mention... we wanted to do all of this in a week.



The Eliiza team eating up the end product

Getting started

We decided to loosely follow Andrew Ng's iterative machine learning life cycle of Idea-Code-Experiment.

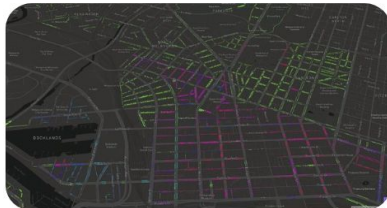


Ben Rimmer

@BenRimmer2010

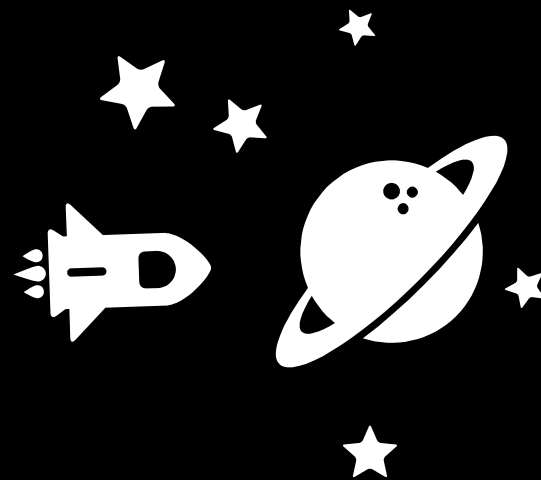
Great article about [@cityofmelbourne](#) open data being used to drive real insight. [@michelledigimel](#) [@colfai](#)

Fiona Milne @fionascottym



Blog I wrote about what we got up to in my 2nd week at Eliiza
medium.com/eliiza-ai/visu...

6:32 pm · 20 Jun. 18 from [Melbourne, Victoria](#)



TL;DL

- Open datasets - yay
- Free(ish) tools (toys) - yay
- Give it a go
- Play to your strengths
- Try to find a good team
- Doesn't have to be perfect
- We are all winging it



Thanks!

Any questions?



Website: www.eliiza.com.au

Medium: [@fionascottym](#)
[@eliiza-ai](#)

Meetup: Melbourne Women in Machine Learning & Data Science