

# Citybikes availability prediction tool for Bikers and City planners

Kari Ojala and Tapio Koukkari



## City of Helsinki

# Promotion of cycling

The City of Helsinki strives to raise the share cycling to 15 percent of all modes of transport in the city by 2020. In 2013, this share was 11 percent. By increasing cycling, Helsinki can become a more pleasant and dynamic city. With the city's growing population, Helsinki



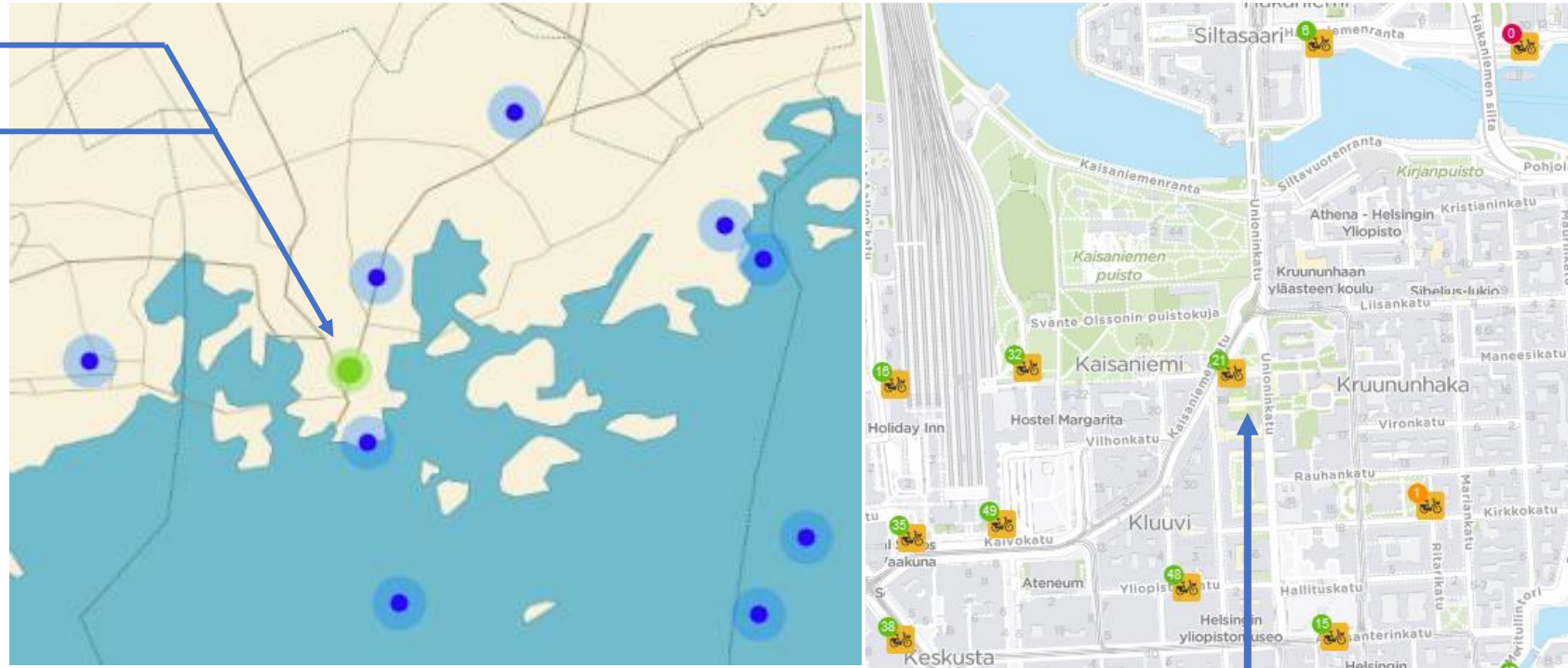


“According to the programme, cycling should be a convenient and safe way to travel “



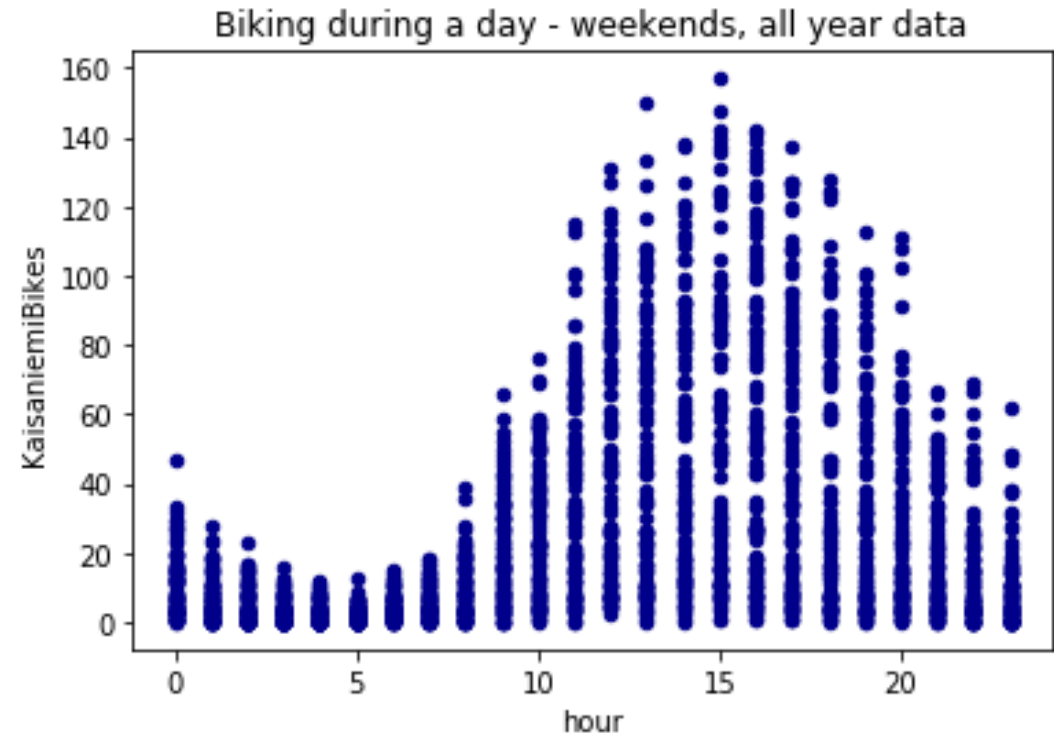
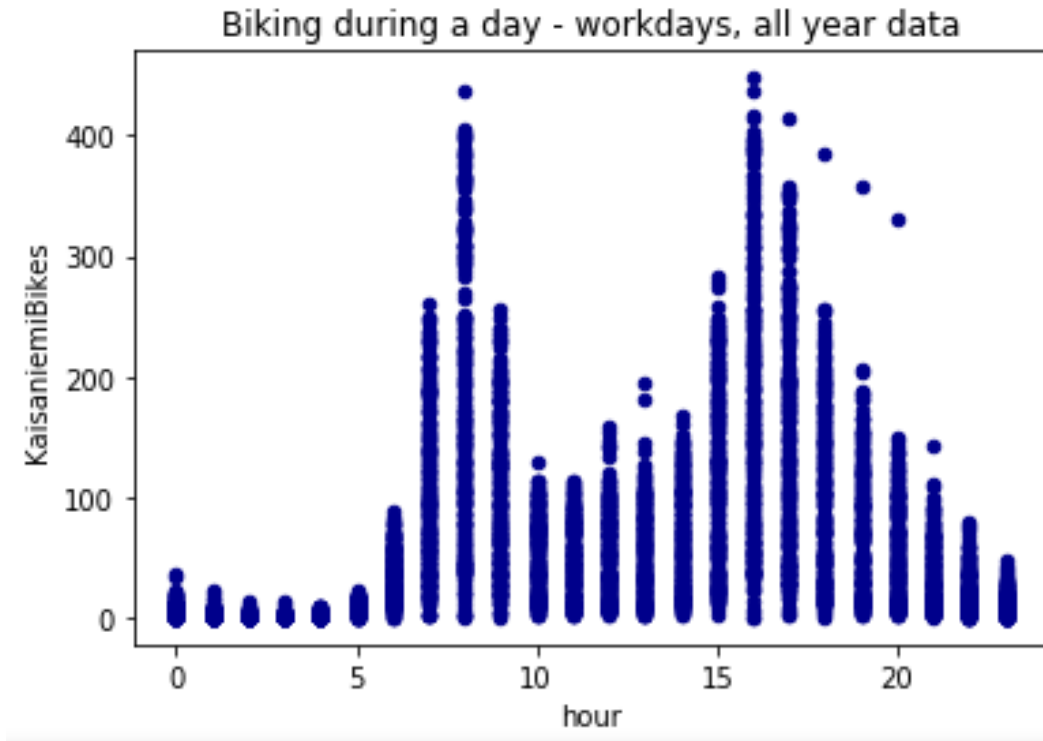
# Starting point: Helsinki Kaisaniemi, 2019

- Weather data
- Bike traffic data
- Citybike data



Add the amazing tools of Data Science and.. **predict!**

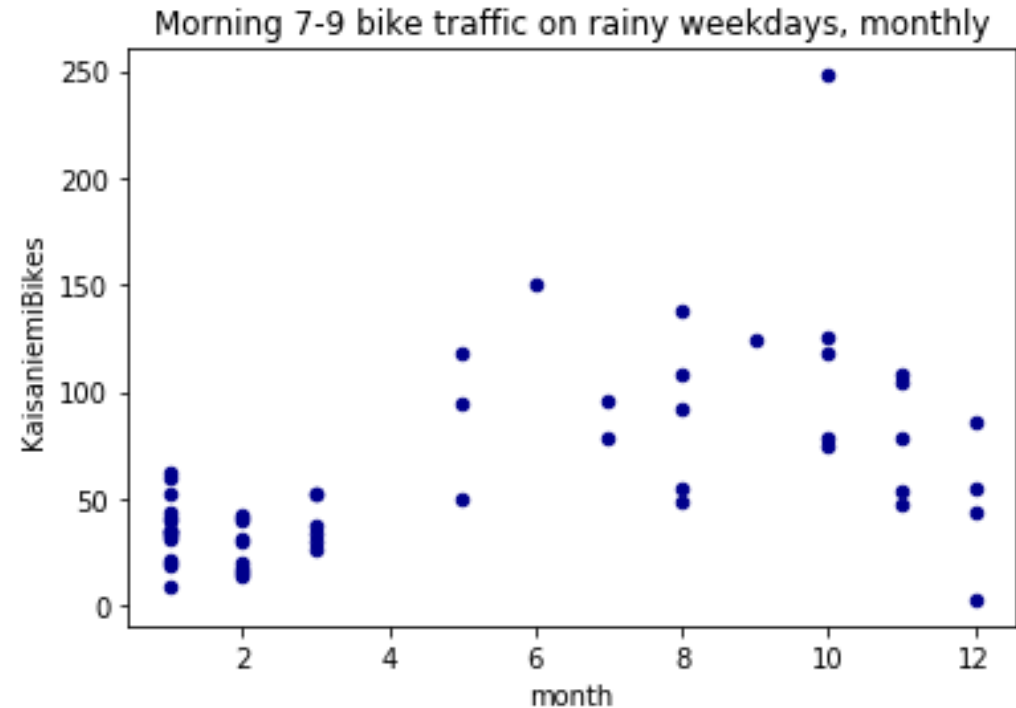
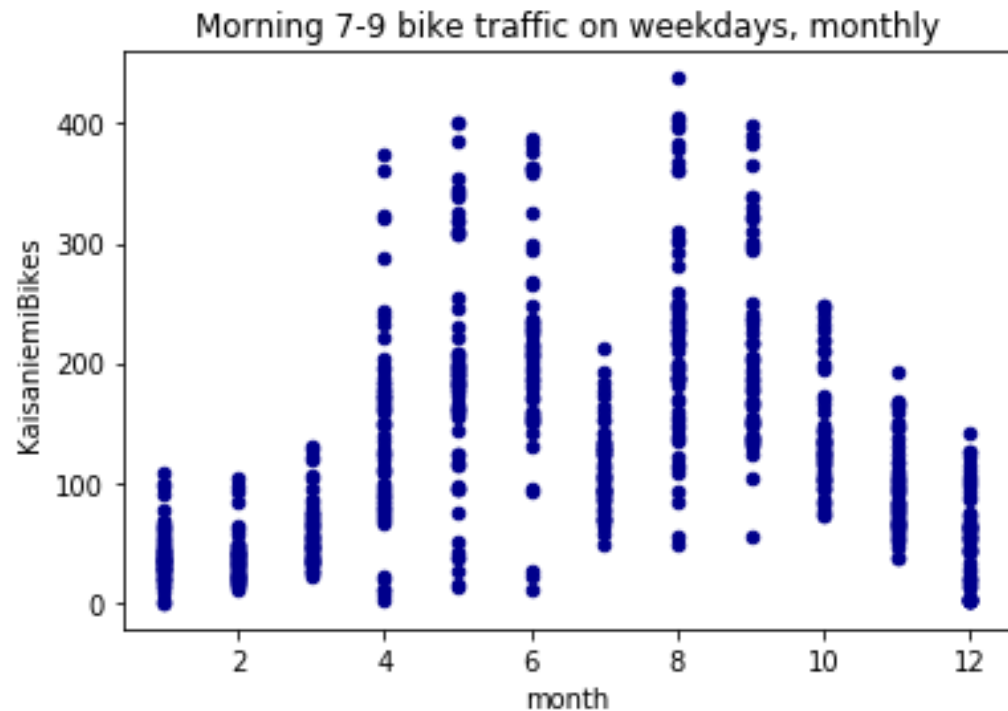
# Bike traffic during a day - workdays vs. weekends



- Different groups of bikers:
  - workers, students, leisure bikers, nocturnals..



# Rain is not a showstopper for bike traffic!



- Citybiking period in 2019 was 3.4. – 31.10

# Sometimes, there are no citybikes available

```
Unnamed: 0      Päivämäärä Kaisaniemi/
377  to 25 huhti 2019 00:00
378  to 25 huhti 2019 01:00
379  to 25 huhti 2019 02:00
380  to 25 huhti 2019 03:00
381  to 25 huhti 2019 04:00
403  pe 26 huhti 2019 02:00
404  pe 26 huhti 2019 03:00
405  pe 26 huhti 2019 04:00
429  la 27 huhti 2019 04:00
430  la 27 huhti 2019 05:00
431  la 27 huhti 2019 06:00
450  su 28 huhti 2019 01:00
453  su 28 huhti 2019 04:00
454  su 28 huhti 2019 05:00
455  su 28 huhti 2019 06:00
```

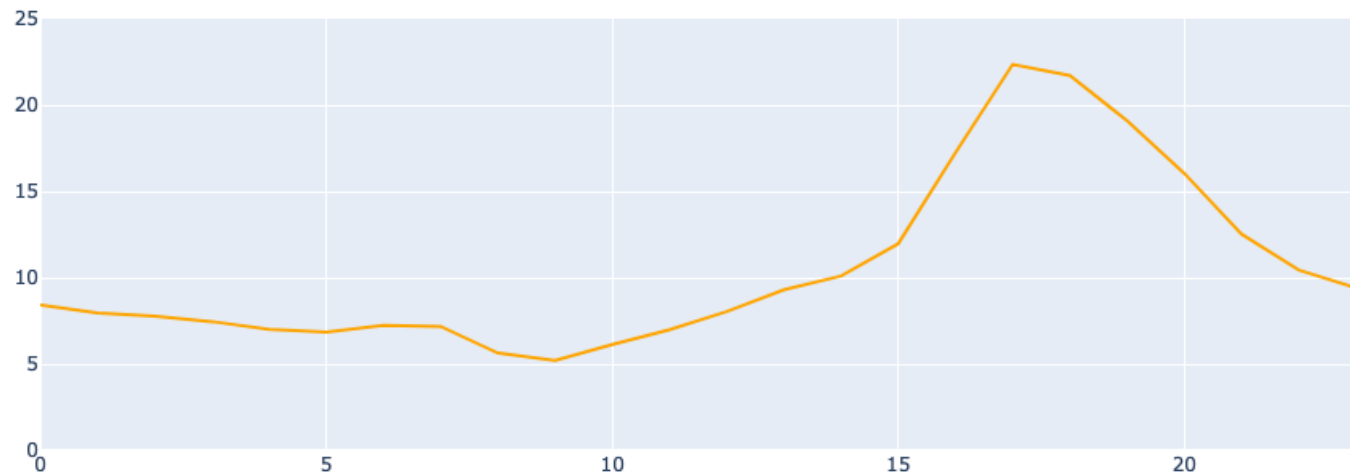
- Kaisaniemi
  - weekend nights
- Who would have thought?

# Citybike availability prediction

- How are bikes available on a station in rain?
- Other conditions also possible, high temperature etc.

Weather ☒ No rain  
☐ Light rain  
☐ Rain

Citybikes available, no rain (Kaisaniemi)





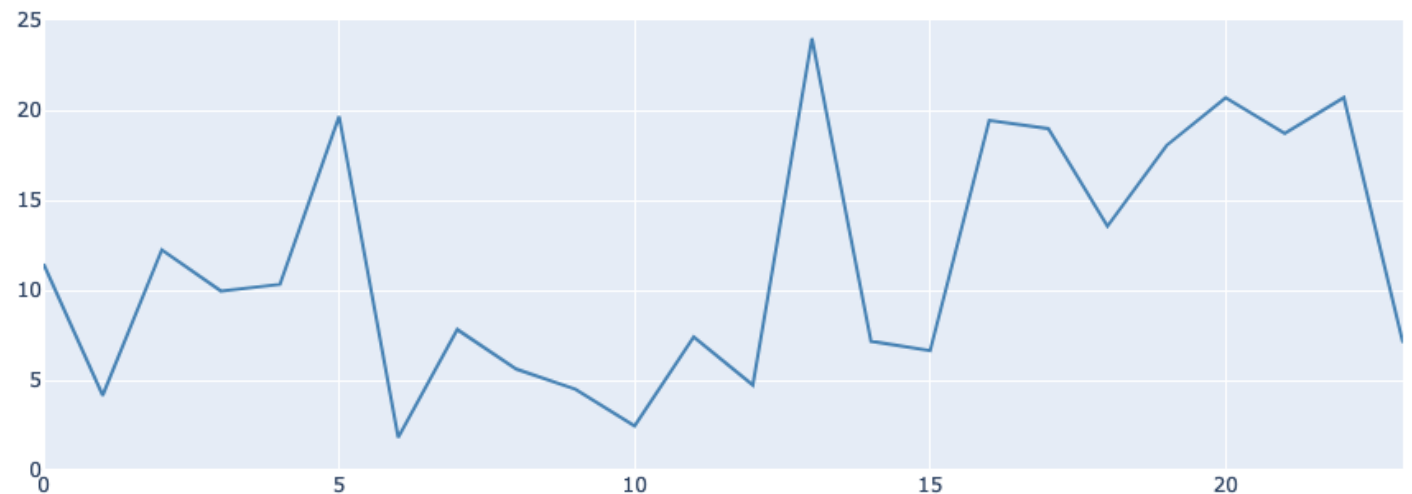
# Citybike widget

- Light rain is currently a bit sparse in source data, can be fixed with longer timespan

Weather

- ☐ No rain
- ☒ Light rain
- ☐ Rain

Citybikes available, light rain (Kaisaniemi)



# Citybike widget

Weather ☐ No rain  
☐ Light rain  
☒ Rain



Citybikes available, rain (Kaisaniemi)

