To Bike OR Not to Bike?

By: Mavis
Nicholas
John
DSI 36

Overview

01 Background and Problem Statement
Mavis

02 Data Walk-Through
Nicholas

03 Conclusion and Recommendations
John

Background: Fictional Student of DSI 36

Caught in morning rush hour

01 Mondays and Tuesdays 9 am at CBD , March to June

02 Bus and MRT too crowded, journey 1 hour

Wants to Ride Motorcycle

Faster: 20 mins max

Cost efficient (unemployed and poor)

Motorcycling to GA

Pros

Cost-Efficient
Parking is cheap, fuel is cheap, tax is cheap

Time-Efficient
Won't get stuck in traffic jams
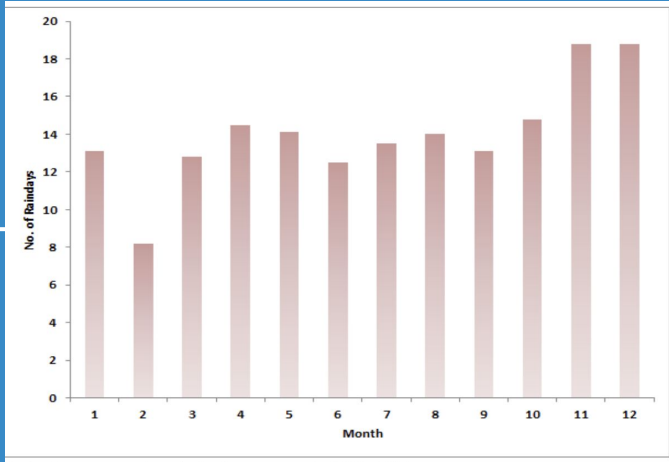
Cons

Vulnerable to Weather
Soggy shoes and socks

Safety Concerns
Acknowledge that more likely to get into accident, but rainfall related?
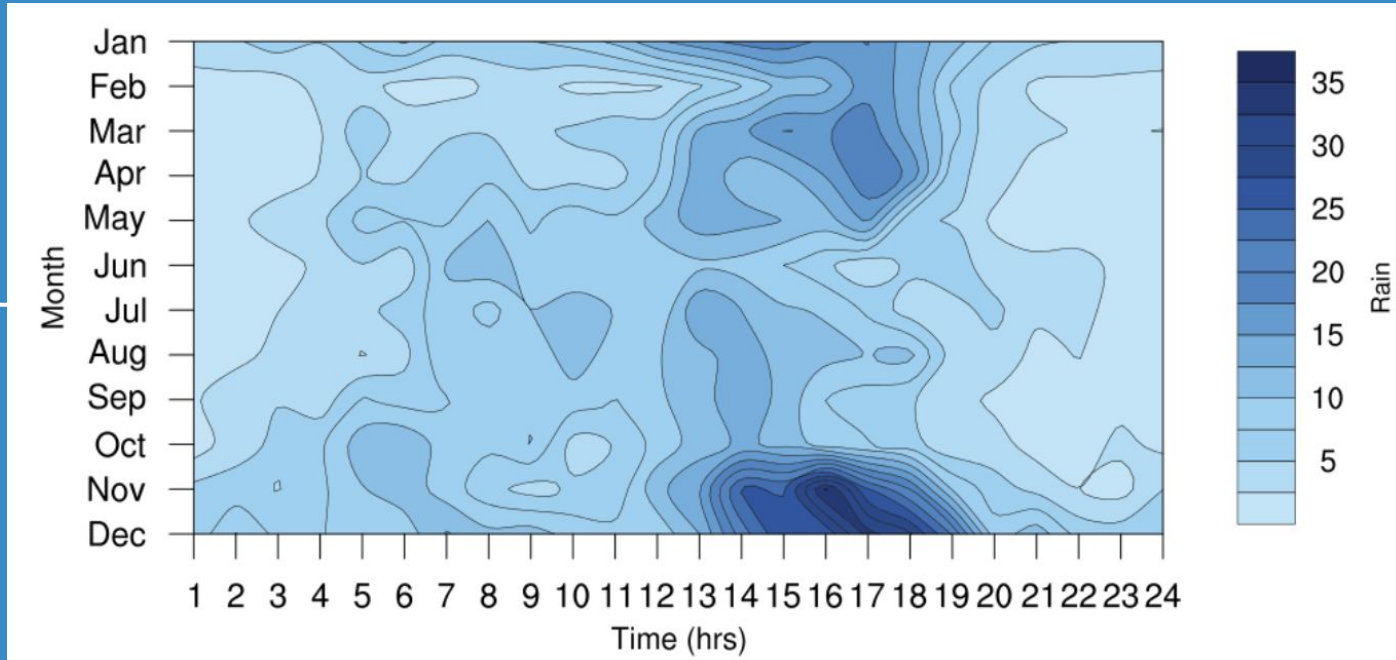
Unfavourable conditions in Singapore

167 rain days a year

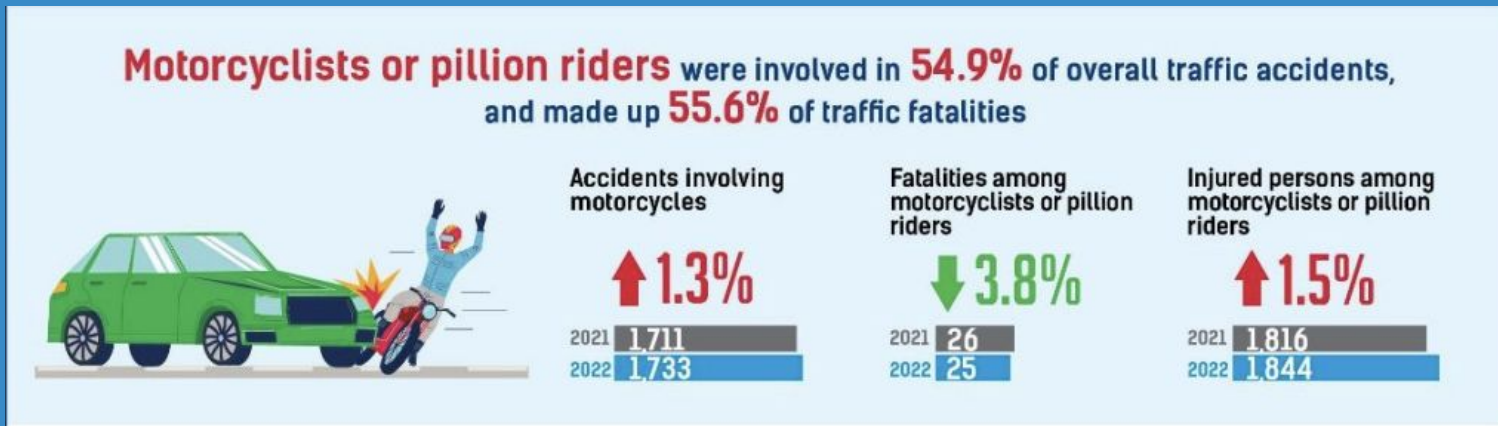''Much of the rain is heavy and accompanied by thunder'

But windows could be possible

Unsafe?

Motorcycles make up only 14% of vehicle population in Singapore:

Motorcyclists or pillion riders were involved in **54.9%** of overall traffic accidents, and made up **55.6%** of traffic fatalities

Accidents involving motorcycles

↑ **1.3%**

2021 1,711
2022 1,733

Fatalities among motorcyclists or pillion riders

↓ **3.8%**

2021 26
2022 25

Injured persons among motorcyclists or pillion riders

↑ **1.5%**

2021 1,816
2022 1,844

https://www.police.gov.sg/media-room/statistics?filter=2DDE3860D1BB4FD6AE91F9B08CFA1E45

BUT, in relation to rainfall?

Problem Statement: Addressing the Cons

Goal

Assess possibility of riding (relatively) dryly and safely motorcycle to campus; can plan accordingly

Identify hours that are likely to rain < 3mm

Determine if rainfall really affects safety

Hourly rainfall

7am - 9am
5pm - 8pm

Campus days
Monday's + Tuesday's
March -June

Monthly Traffic Incidents

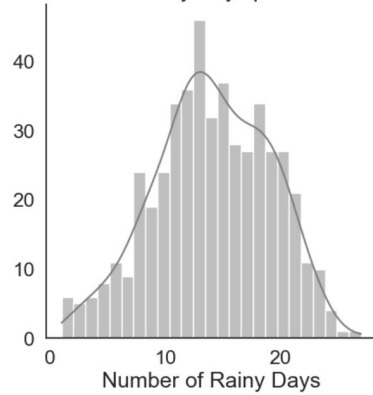with injured or dead motorcyclists
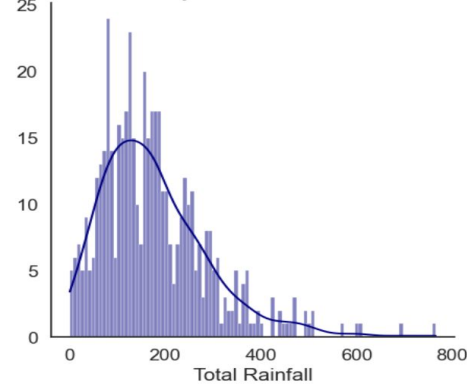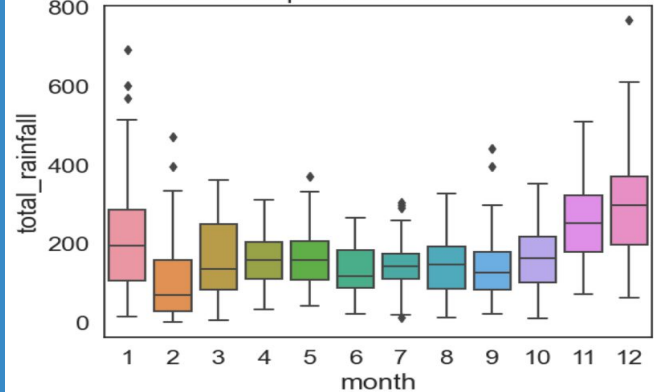
Monthly Rainfall

Data provided

Data Visualization

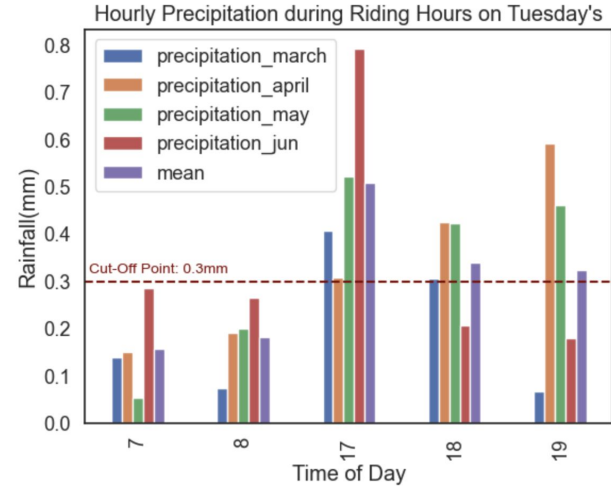# Distribution of data
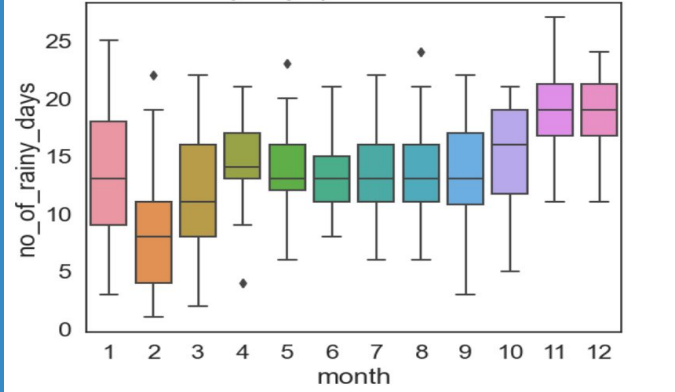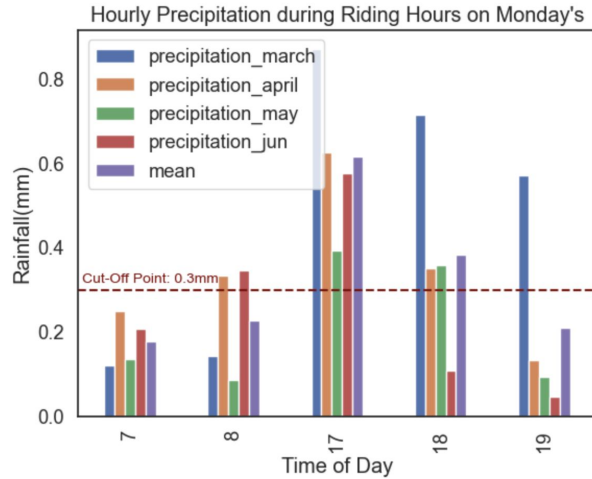
Data Correlation
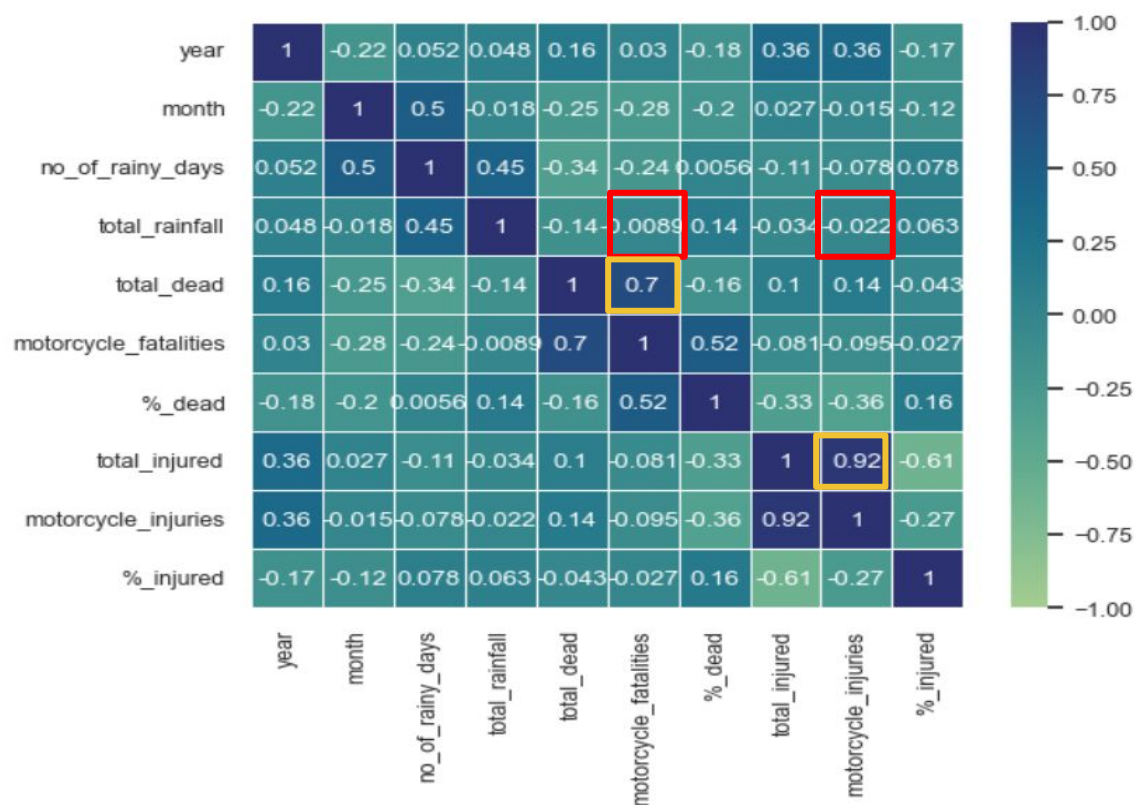
Primary Findings:
- Total rainfall & motorcycle fatalities (close to no corr)
- Total rainfall & motorcycle injuries (close to no corr)

Secondary Findings:
- Total injured & motorcycle injuries (strong positive corr)
- Total traffic deaths & motorcycle fatalities (strong positive corr)

Hourly Precipitation during Riding Hours on Monday's

Hourly Precipitation during Riding Hours on Tuesday's

Findings:
- Optimal time of transport to campus is between 7am to 8am
- Optimal time to leave campus is after 6pm

Recommendations and Conclusions
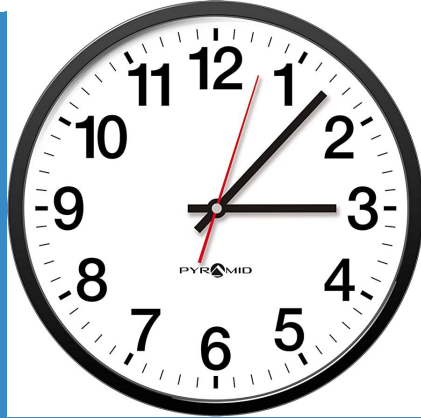
Coworker who rides his motorcycle everyday

"Traffic doesn't matter anymore"
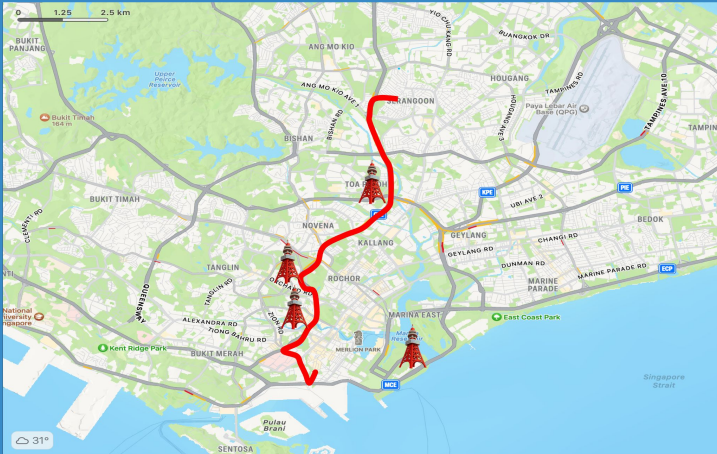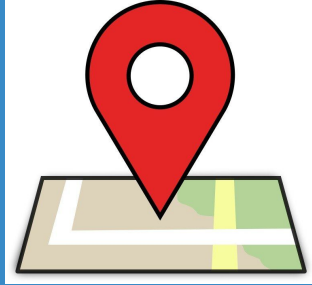
Work shirt in here

"Haha I know what I'm doing"

"I save so much on gas"

Here lies a 26 year old child

SG Road Vigilante

RAIN KORKOR

Further Works

Thank you!