

01

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Capstone | 2020

# Ad Fraud



70 %

Active Mobile Devices Nationwide

3 Billion

Clicks Per Day

90 %

Potentially Fraudulent Data

## Data Set

FROM KAGGLE:

TalkingData AdTracking Fraud Detection  
November 6, 2017 4pm - November 9, 2017 3pm

# HYPOTHESIS

03

$H_0$

Rate of fraud at night = rate of fraud during the day

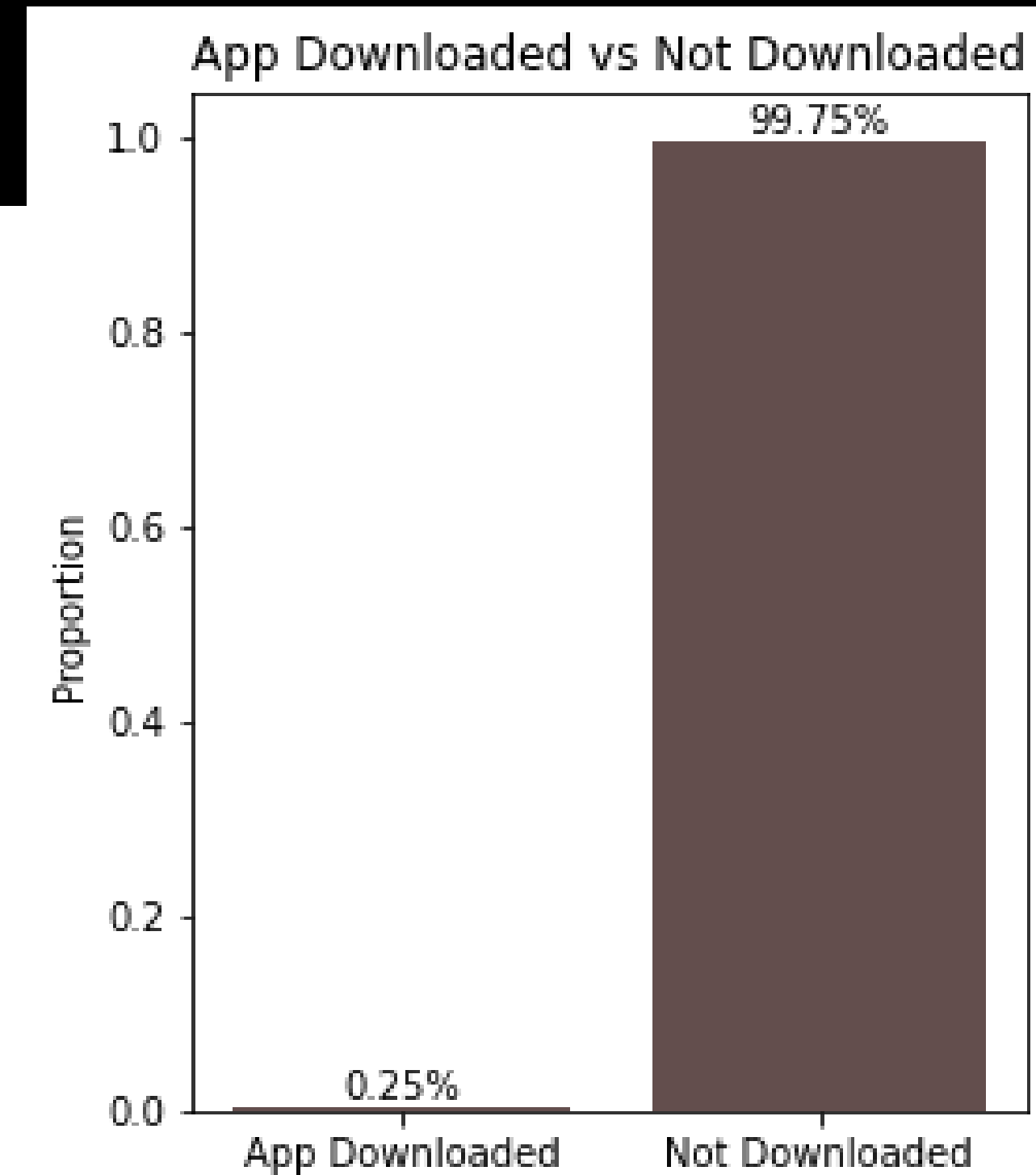
$H_a$

Rate of fraud at night  $\neq$  rate of fraud during the day

# 04

## WHAT CAN WE INFER?

First Glance at the dataset

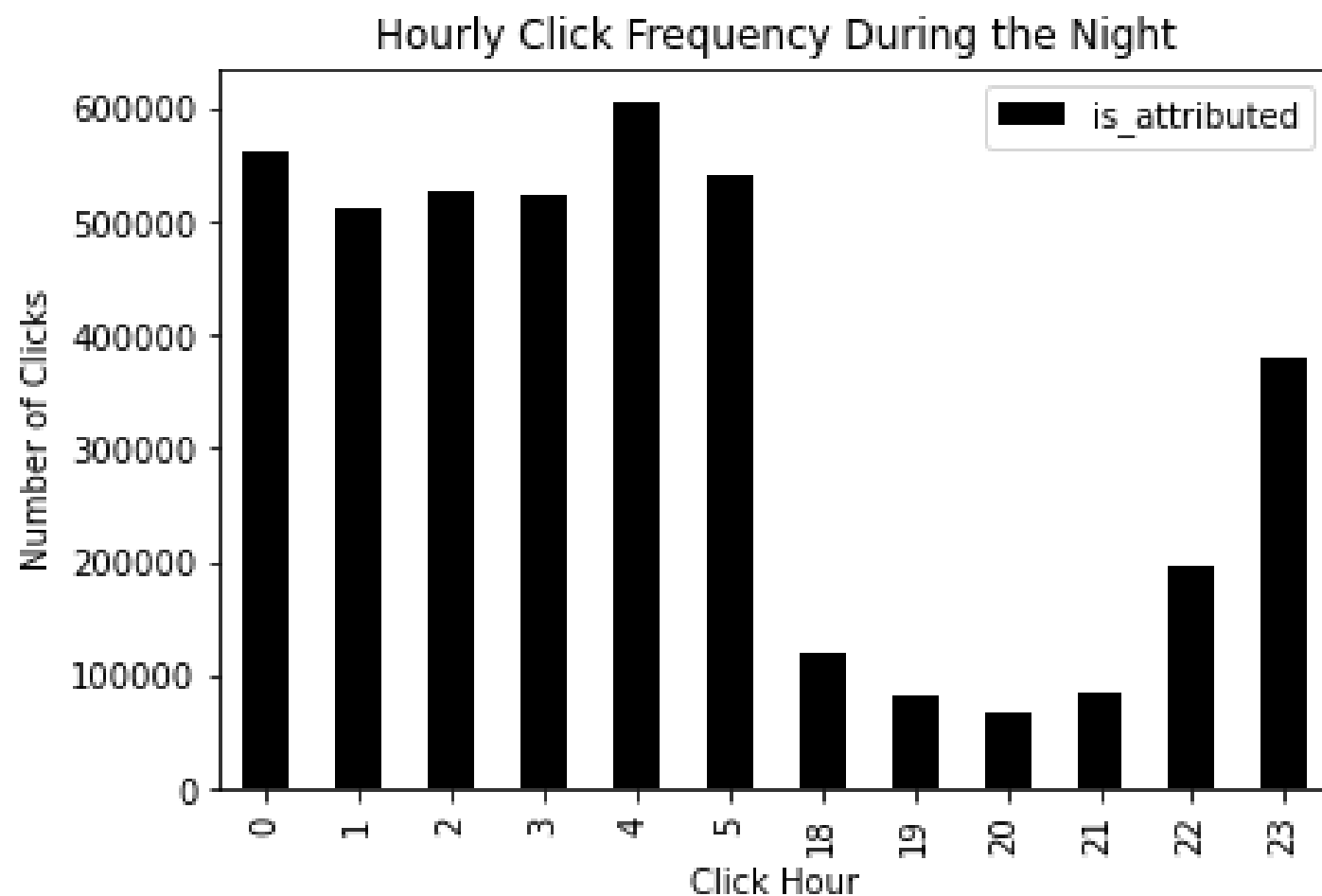
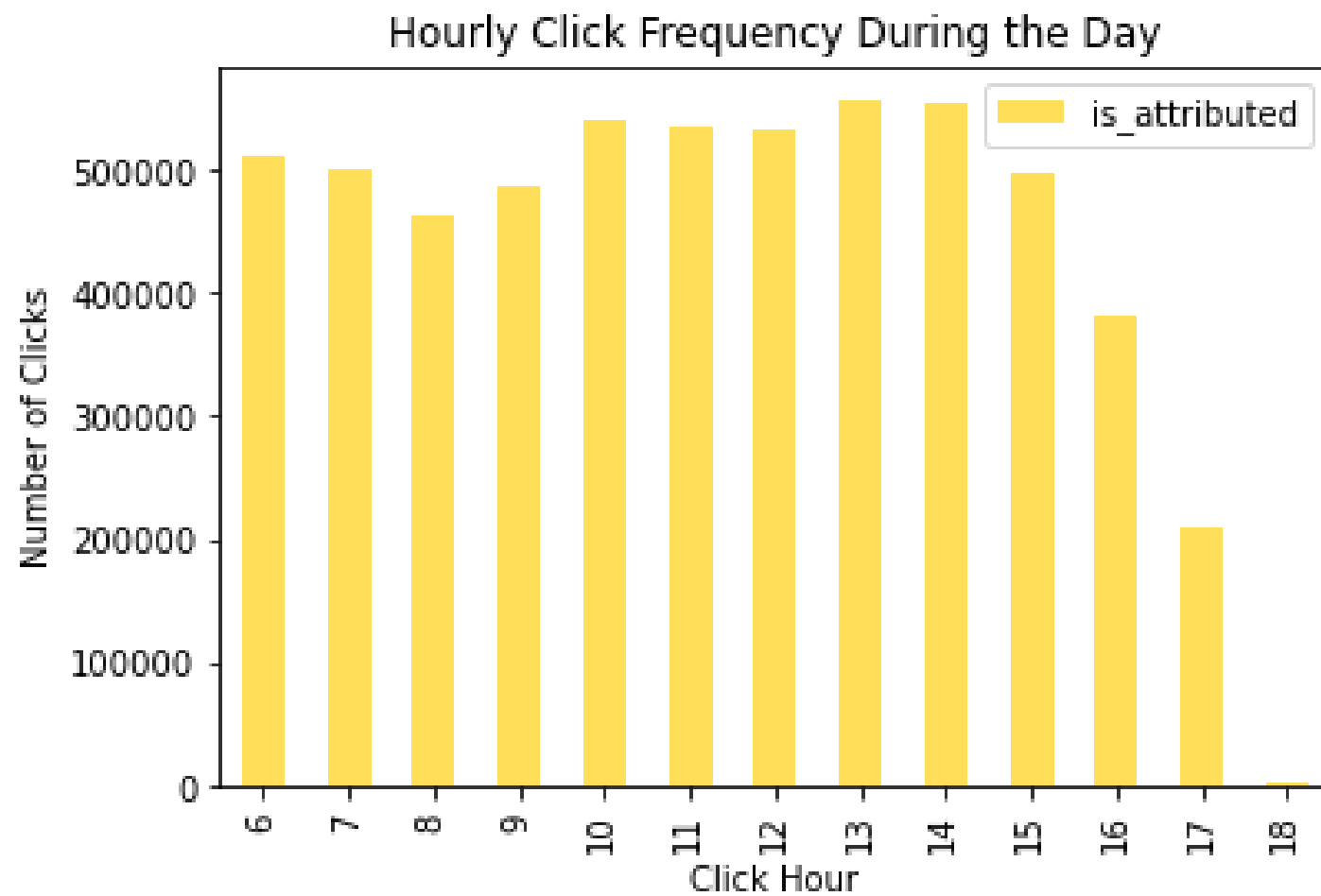


05

# HOURLY CLICK FOR FRAUD

Day Clicks: 6am - 6pm

Night Clicks: 6pm - 6am





$\bar{x}$  of click count during the day

443,844.54

$s$  of click count during the day

161,953.74

$\bar{x}$  of click count at night

350,434.33

$s$  of click count during the night

220,021.98

t-test

P-value=0.24

## Welch's t-test

The test gives a t-statistic of 1.2  
and a p-value of 0.24





07

# CONCLUSION

Hypothesis results

## Fail to Reject:

Since our P-Value is greater than our alpha of 0.05 we can fail to reject our null hypothesis testing that the rate of fraud at night equals the rate of fraud during the day.

# 08

Fraud occurs 24/7, It's best to not waste resources targeting time of fraud occurrence.

Dig deeper into non fraudulent data, take a look at the hours that clicks actually do lead to people downloading the app.

## Next Steps

Main takeaways and how can we use our data

Create digital marketing campaigns to target audiences that download the app at peak hours.





09

THANK YOU!!!

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**CONTACT**