

TARTU SMART BIKE SHARE

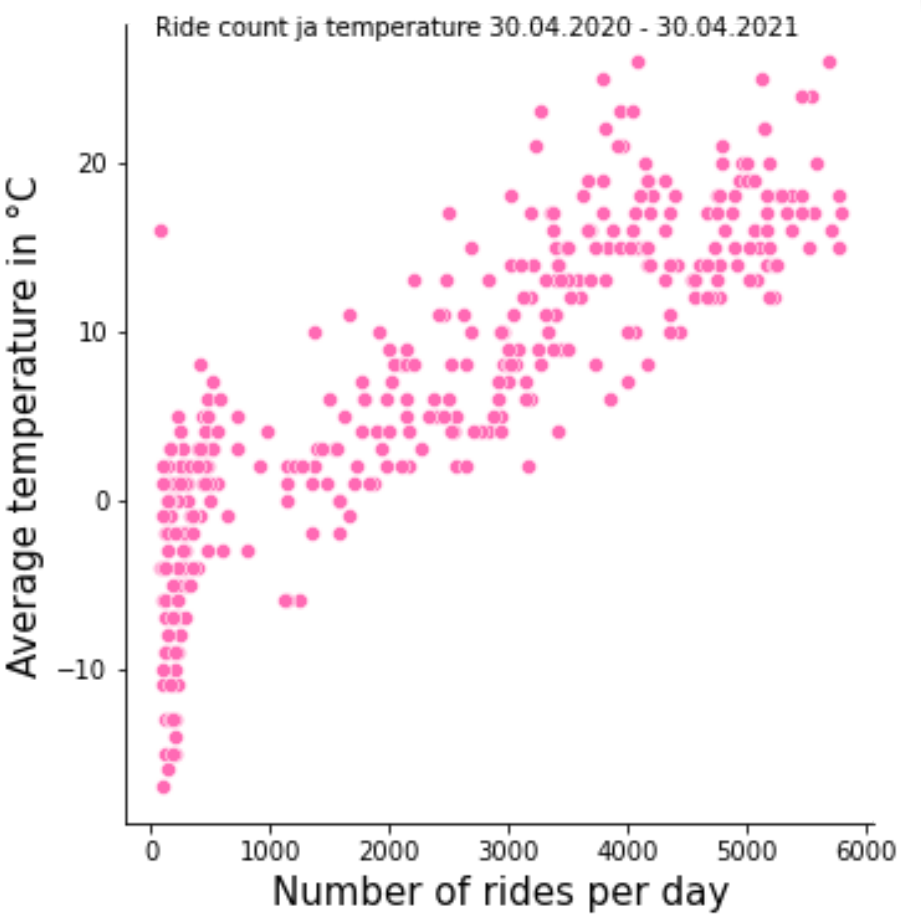
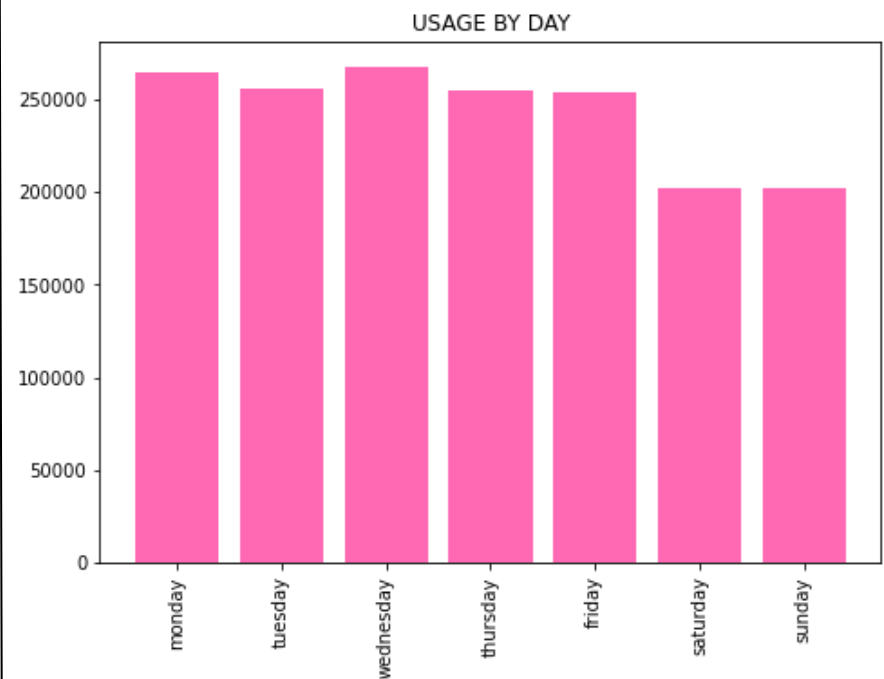
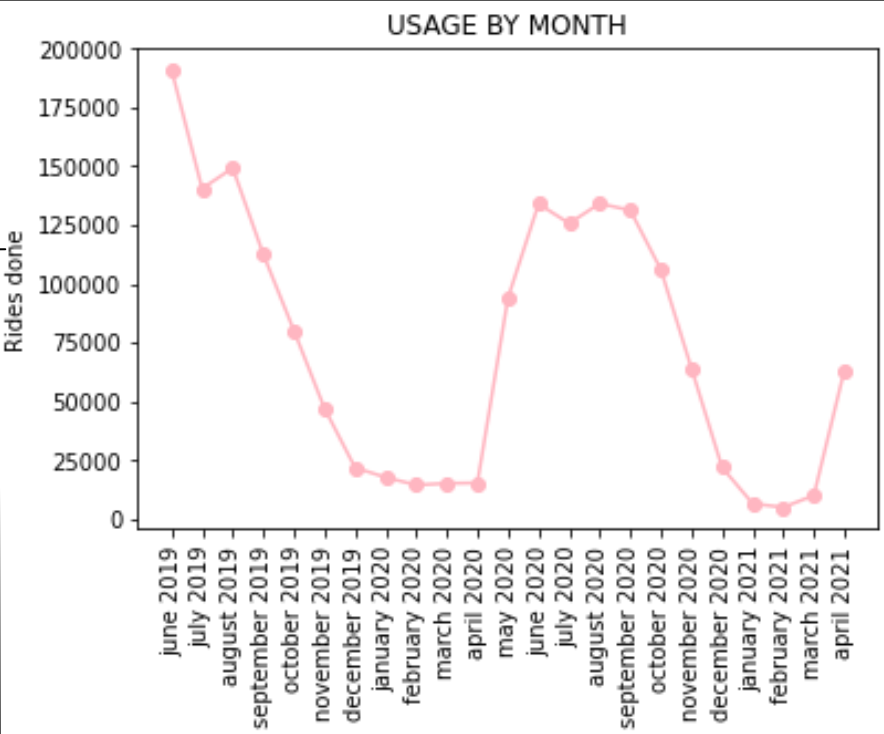
https://github.com/emmasemilarski/Tartu_smart_bike_share

SMART BIKES ARE AN IMPORTANT PART OF THE SMART CITY WAY OF THINKING. ONE OF THE MOST IMPORTANT OBJECTIVES OF TARTU CITY IS TO DEVELOP ENVIRONMENTALLY FRIENDLY MOBILITY. WITH BIKE SHARE, IT IS POSSIBLE TO REDUCE THE NUMBER OF CARS, ENCOURAGE USERS TO GET SOME PHYSICAL ACTIVITY AND MAINTAIN THE "15 MINUTES TO ANYWHERE" PHENOMENA IN TARTU.

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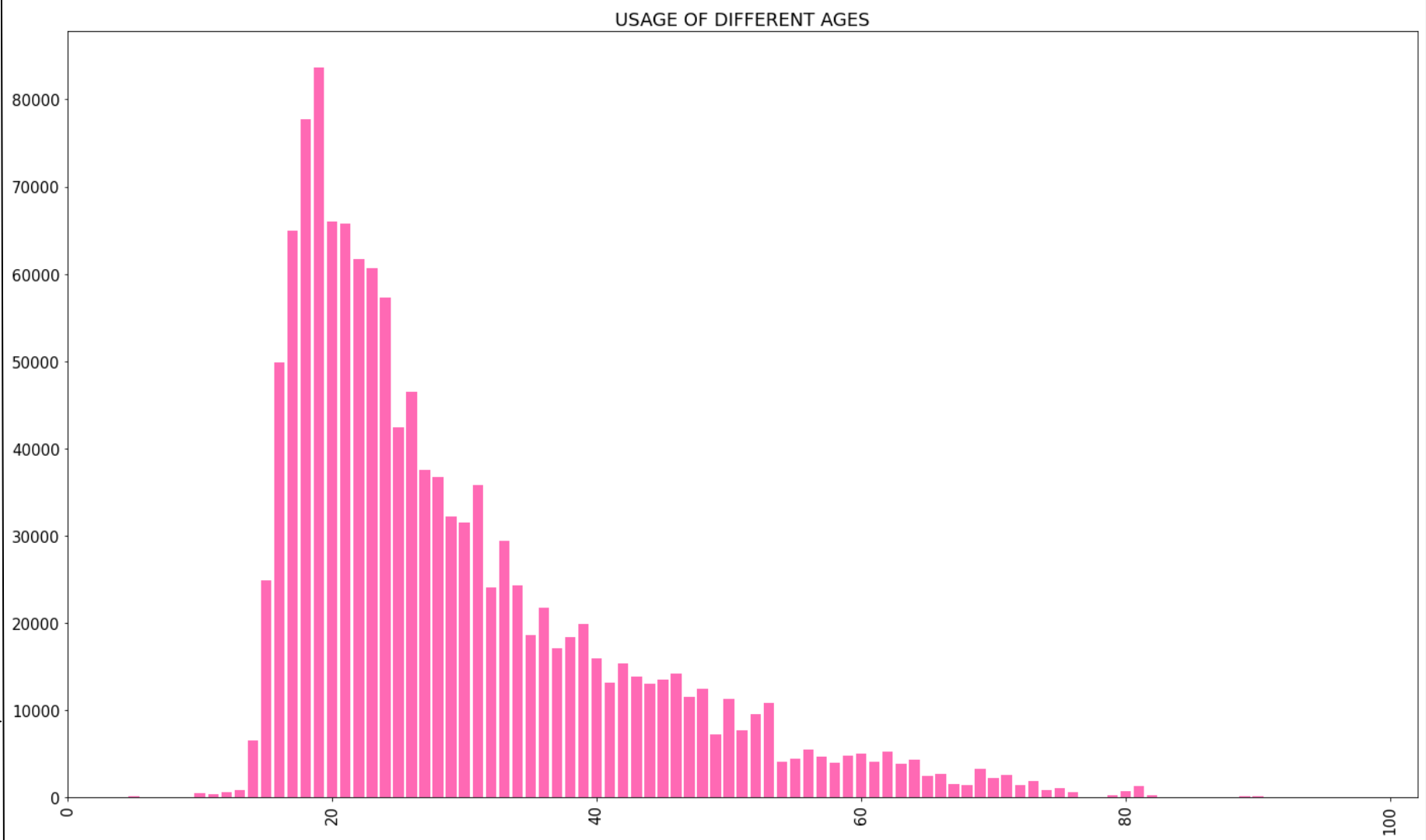
INTRODUCTION

TARTU SMART BIKE SHARE HAS BEEN AROUND SINCE THE YEAR 2019. THE BUSINESS IDEA IS THAT THERE ARE BIKE STATIONS ALL OVER THE CITY AND THERE ARE MULTIPLE BIKES IN A STATION, BOTH CLASSIC AND ELECTRIC ASSIST. IN THE LAST TWO YEARS SOME PROBLEMS WITH THE SERVICE HAVE ARISEN, SUCH AS SOME BIKE STATIONS ARE FULL WHILST OTHER STATIONS ARE EMPTY. OUR GOAL WAS TO ANALYSE USER BEHAVIOUR TO ENSURE THE BEST POSSIBLE EXPERIENCE FOR ITS USES.



DATA AND METHODS
THE DATA WAS PROVIDED TO US BY THE TARTU SMART BIKE SHARE TEAM. WE TRAINED DIFFERENT MODELS USING THE SAME SET OF FEATURES AND DIFFERENT SUPERVISED LEARNING ALGORITHMS:

- LINEAR REGRESSION
- POISSON REGRESSION
- LASSO REGRESSION



RESULTS

WE MANAGED TO FIND THE MOST AND LEAST POPULAR STATIONS. WE ALSO MADE STATISTICS ABOUT THE CUSTOMER BASE AS WELL AS ABOUT HOURLY, DAILY AND MONTHLY USAGE. OUR MODEL PREDICTS WITH 75% ACCURACY HOW MANY RIDES WILL BE DONE IN A DAY ACCORDING TO THE WEATHER.

- FUN FACTS:**
- MEN USE THIS SERVICE 1.4X MORE THAN WOMEN
 - THE MOST POPULAR TIME TO USE THIS SERVICE IS BETWEEN 14:00 AND 22:00