

CRIME PREDICTOR

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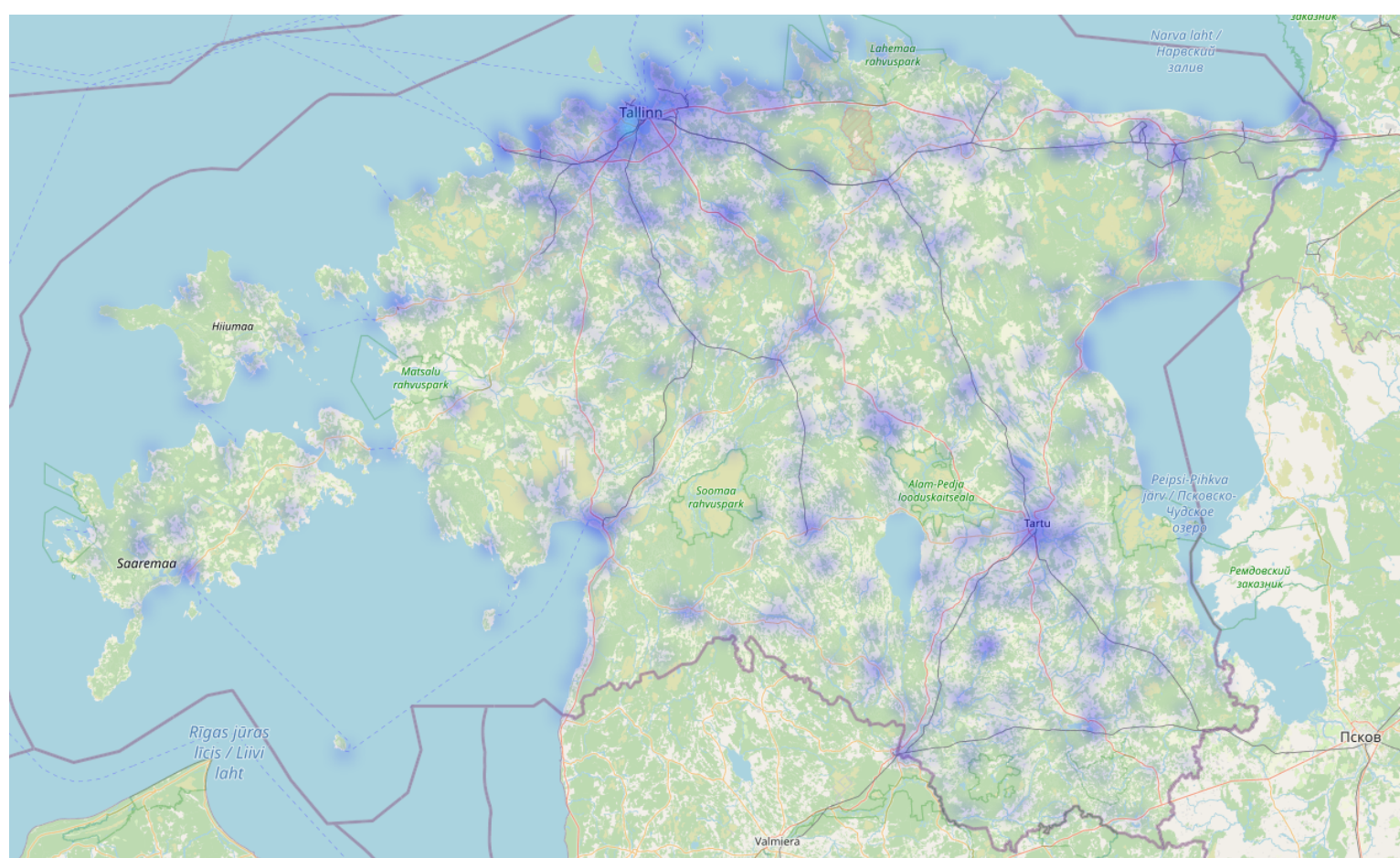
INTRODUCTION

Every day multiple crimes are committed. We decided to do our part and contribute to detecting crimes. Our target was to predict most probable public order breaches by type at a specific time in a specific location. Examples of public order breaches are for example school violence, bicycle theft, petty theft or physical abuse.

DISCOVERING & CLEANING DATA

We started with taking a deeper look into our data. We had data about ~100 000 different public order breaches that had taken place in various locations in Estonia during the last 10 years (2012-2021). We started with dropping not-relevant fields such as the law act and paragraph of the crime. We removed all of the rows where we had defective data and where the crime committed was rare to make things simpler for models. At the end of this we had ~78 000 data points to continue. From playing around with the data we discovered that most common type of crime was theft that was 44% of crimes.

Heatmap of crimes in Estonia



GOAL

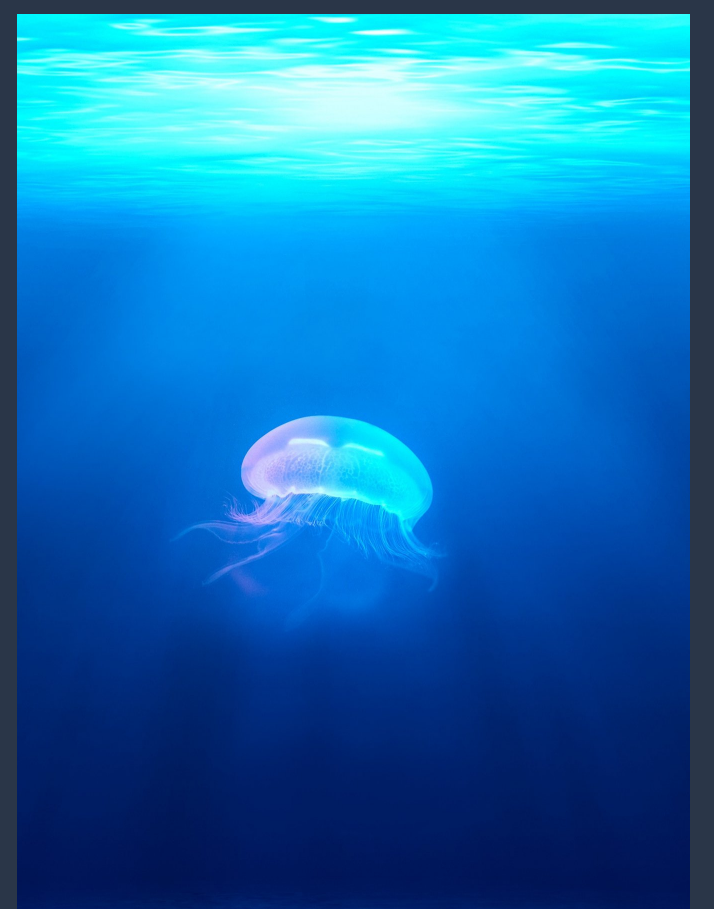
The goal of the project was to predict most probable public order breach for a given location and time with different models. The plan was to visualize results on a map and to evaluate the goodness of our models.

METHODS

For prepearing the dataset we used one-hot encoding on location of the crime and day of the week of the crime. We tested with different models, such as RF, KNN and SVC to achieve best results. We splitted the data into 3 sets for training, testing and validation.

RESULTS

According to Wikipedia, in academic publishing, a scientific journal is a periodical publication intended to further the progress of science, usually by reporting new research. There are thousands of scientific journals in publication, and many more have been published at various points in the past (see list of scientific journals). Most journals are highly specialized, although some of the oldest journals such as Nature publish articles and scientific papers across a wide range.



Source code:
https://github.com/ToomasRo/crime_predictor