

# Spatio-temporal prediction of ambulance calls

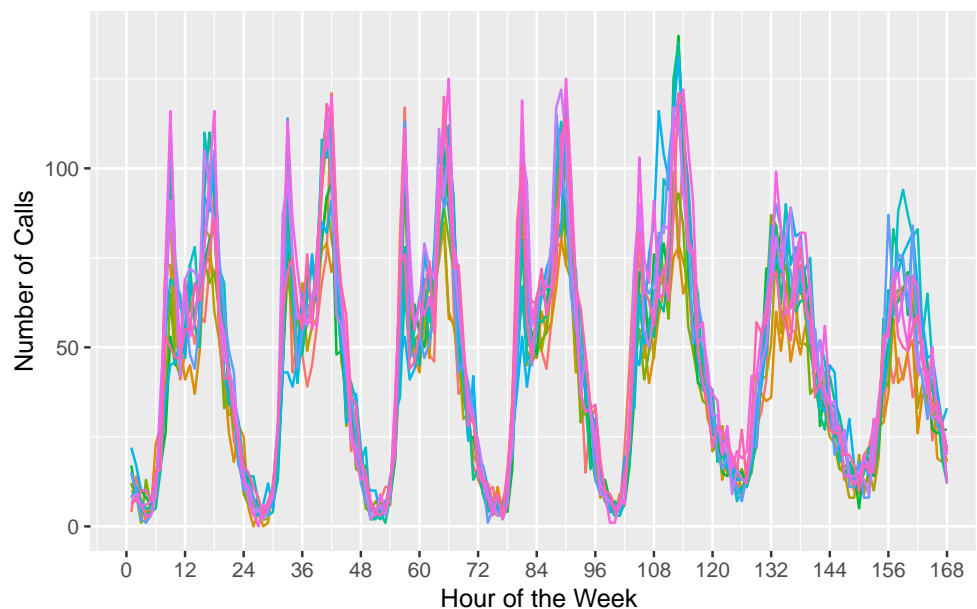
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## Exploratory Data Analysis

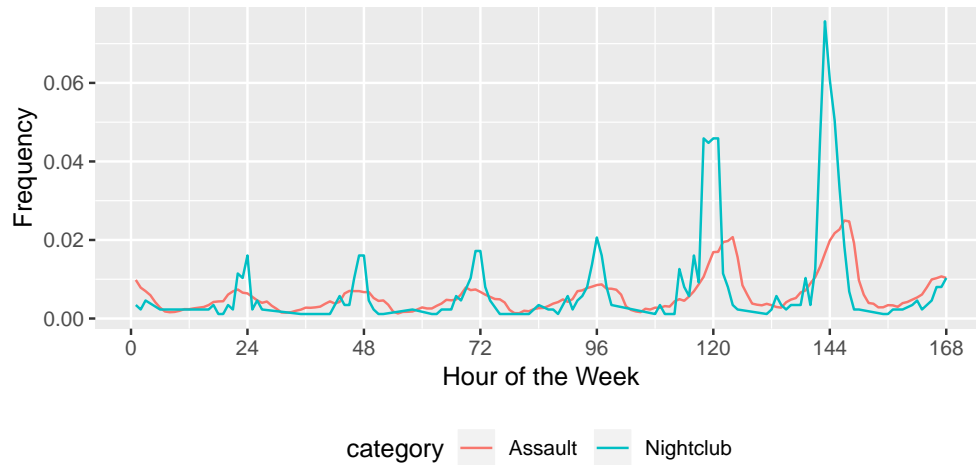
- Clear weekly pattern for some types of problems

### Traffic Incidents



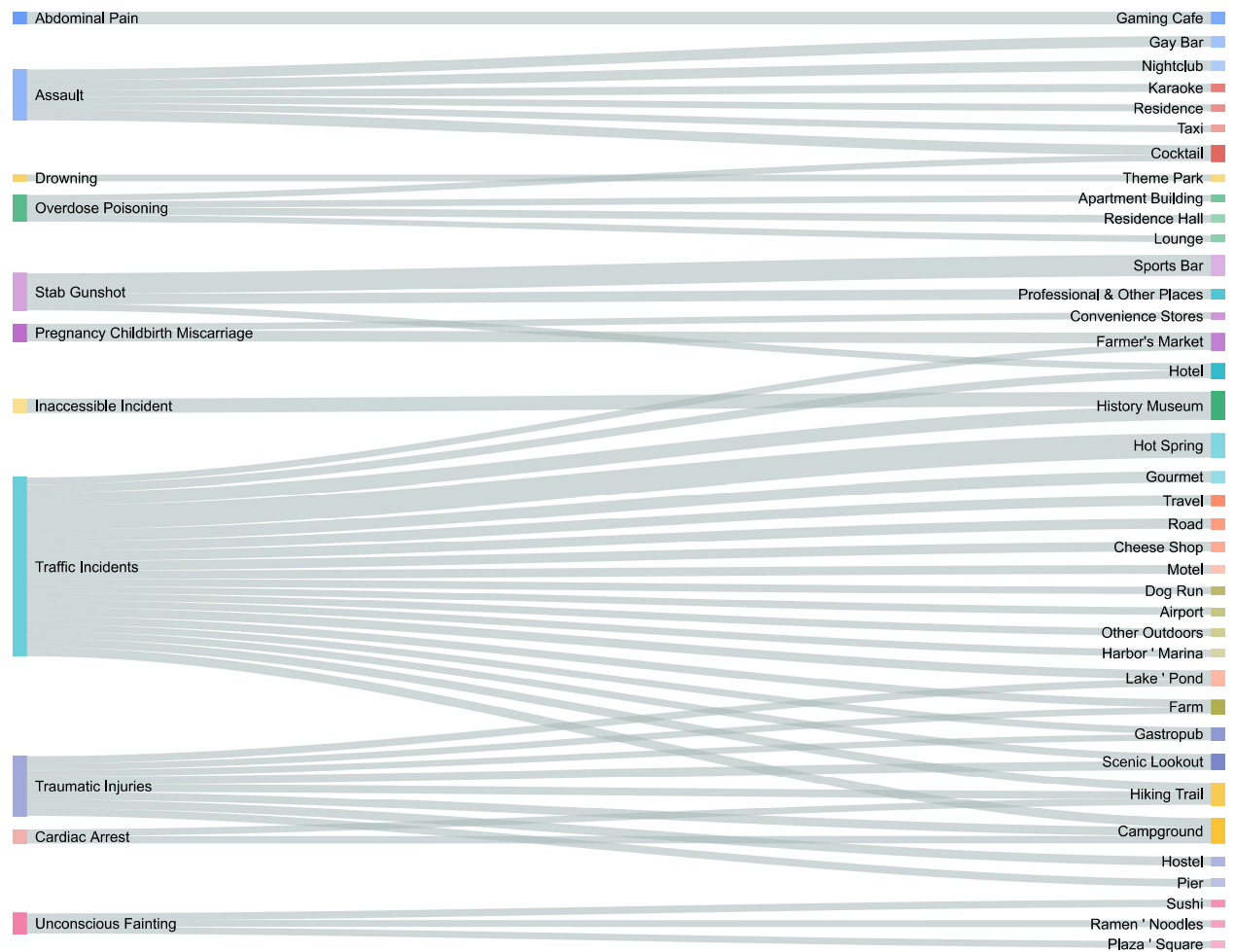
- Strong connection between human activities and ambulance calls





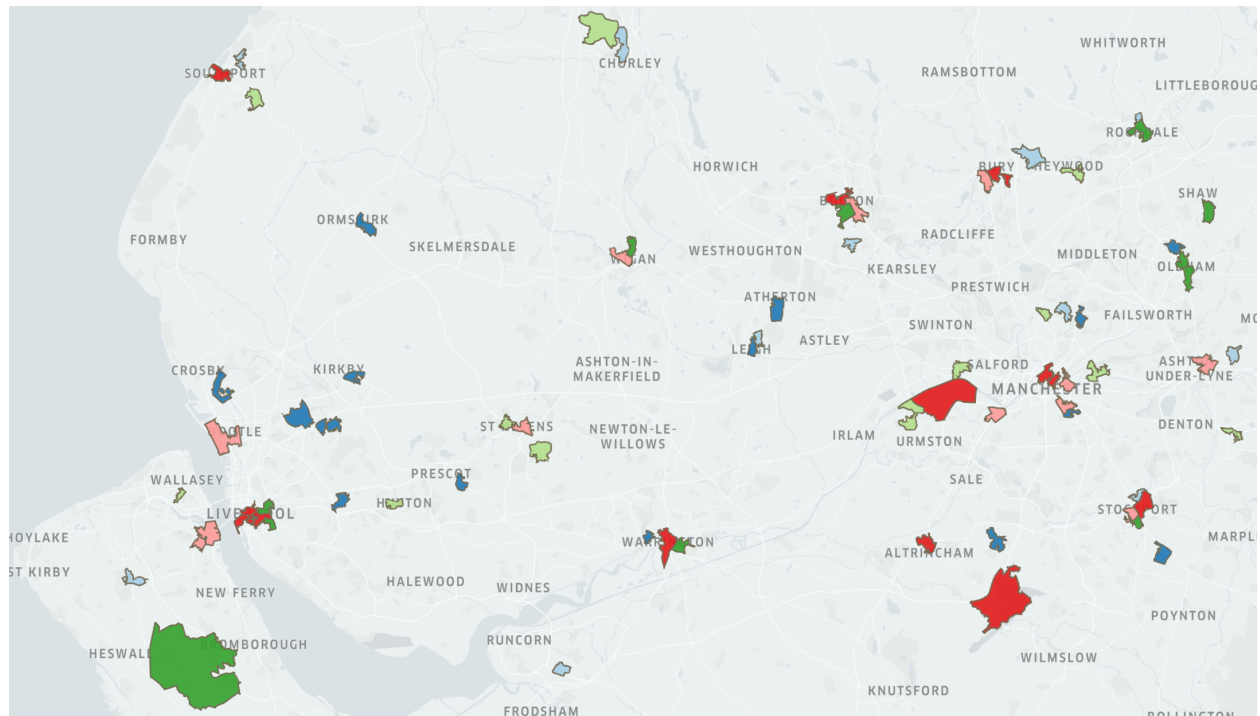
## Feature Engineering

- Defined 'attractiveness' score between types of problems and human activities



- Calculated risk score for yielding an ambulance call per area

Maps shows the risk score for selected areas only. Red is indicating high risk, green - low risk, blue - not enough information.



## Data Modelling

Two models were compared - ARIMA, when the data is looked purely as a time series and logistic regression, where the outcome is whether or not there will be a call in certain area at certain hour in a certain day. Logistic regression model provided 70% AUC, however, the plot below shows it is a better fit.

