BCG

THE BOSTON CONSULTING GROUP

BCG Gamma Data Science competition

Competition document and detail instructions

BCG Gamma Data Science Competition: Forecasting road traffic with open data

The challenge

BCG Helsinki and BCG Gamma challenge you to prove your data science skills in open data based forecasting competition

The competition is based on Finnish Transport Agency's open road traffic data[1]

Data includes traffic interruptions, weather data & vehicle type specific traffic volumes from LAM stations[2]

The task & prizes

Produce forecasting algorithm and a forecast of hourly traffic volumes per vehicle category:

- Forecast period: 22.6.-26.6.2018
- Forecasts for three specified LAM locations
- Solution submission DL: 21.6.2016

This is a true competition & top performers will be awarded handsomely

- Top performers get present their solutions world class BCG Gamma data scientist team over dinner
- Top-3 best solutions will be awarded with 500€ gift cards to Verkkokauppa.com

1. https://www.liikennevirasto.fi/web/en/open-data/ (Under license Creative Commons 4.0)
2. Liikenteen automaattinen mittausasema (LAM), Automatic traffic measurement station (TMS)

Detailed task and expected solution elements

Task details

Your task is to forecast volumes for three LAMs:

- KT50 – Askisto, VT4 - Mäntsälä & VT5 – Kemijärvi
- Note that LAM measurement data is direction and vehicle type specific; and your forecast should be too
- Follow forecast format provided in "Solution Elements"

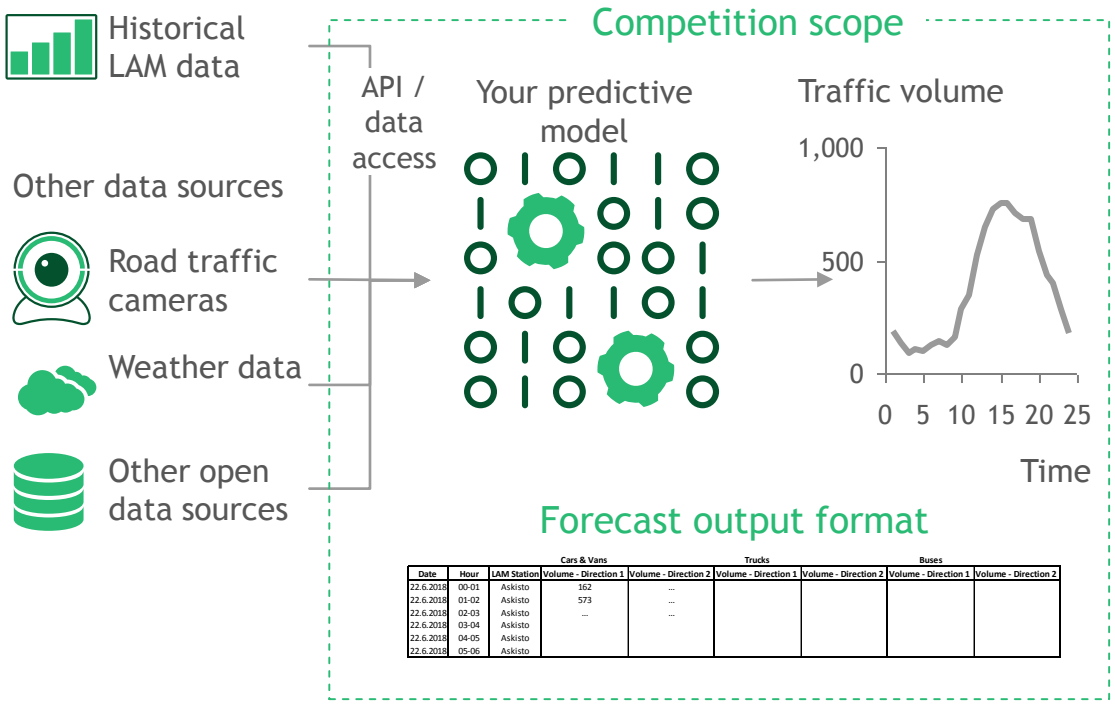
LAM data has seven vehicle classes, you need to provide forecast at least for: 1) Cars and delivery vans, 2) trucks, 3) buses; other classes optional

Be creative with input data streams, e.g. using weather data & build your code so that you can easily update inputs

Submission should consist of three files

- Fully commented forecasting source code (text file)
- Time series of hourly traffic volume per class (csv file)
- One page explanation of your solution concept (pdf file)

Solution elements



Competition guidelines

General guidelines
- Prepare your algorithm using general use scripting language: Python, Matlab or R
- You need to carefully comment your source code, and ensure that solution logic is clearly laid out
- Participant has to agree with the MIT free software license terms & include license term in the code[1]
- This is individual competition and team submissions are not accepted

Evaluation of solutions
- 50% weight on elegance and clarity of approach (methodology, solution logic, generalizability)
- 50% weight on performance, measured by minimized measurement RMS error within forecasting interval

Submissions have to be in within DL 21.6.2016
- Submit your source code, forecast and explanation by email to kauppinen.lauri@bcg.com

Historical input data for training and testing of your predictive model
- https://www.liikennevirasto.fi/web/en/open-data/materials/tms-data#.WvU7wKSFOuc

You can also use REST/JSON API access and data available via Digitraffic Service
- http://digitraffic.liikennevirasto.fi/en/road-traffic/

1. http://en.wikipedia.org/wiki/MIT_License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