Predictive modeling of rates for Canadian goods or services.

To anyone who finds this work useful or is interested in your ideas.

This work was carried out as part of the Vancouver DataJam 2021 “Consumer Price Index” project to forecast the Monthly adjusted price index.

Description:

For this project, ideas were taken from the most applied part of measurement theory with concepts such as measurement changes in order to put the data in perspective in the context of the pandemic that currently affects us and with which we have been for almost two years. For these changes, the greatest possible cleaning was tried to avoid corrupting the data, under this task the linear regression model was used, being a widely known and busy model that allows us to obtain a line that could contain the largest amount of data without affecting the basis during the change of measure (on a basis previously contextualized to the current dynamics) and then use ideas and Monte Carlo methods to optimize the code and reduce its time, with these elements we proceeded to introduce a reversion model to the mean (Heath - Jarrow - Morton, late 80’s to model the evolution of interest rates), the main function was to capture all the dynamics of the curve to reduce the problems of overfitting. Once the dynamics of the good or service have been captured, we see ourselves in the fulfilled promise of returning the measurement changes and giving answers to the problem of making forecasts with the dynamics.

Which not only allows to solve this problem but also provides a general proposal of structure for any similar problem.

Getting Started:

Dependencies:

- Use any interface that allows reading .ipynb files.

Installing:

- https://github.com/Yypinguino/Vancouver-DataJam-2021.git

Executing program:

- Follow the original order by choosing the initial characteristics.

- Have and charge the base `MAPI_N_18_21.cvs` .

Help:

- The code allows modifications to work with other bases especially if they are similar to the one originally used.

Authors:

- Aragón Grijalva Sergio Olinsser
- sergiooaragong@hotmail.com

Version history:

- 0.1
    - Initial Release