**Title**

Applying ML Regression techniques to predict the selling price of corn

**Abstract**

Statistical information is gathered to act as a vital resource for agriculture and food-related statistics in the province of Ontario. These data are predominantly assembled by the Ministry of Agriculture, Food and Rural Affairs' Statistics and Economics personnel, in collaboration with Statistics Canada's Agriculture Division, as well as various government departments and farm marketing boards, such as the Chicago Board Of Trade.

*Dataset Description*

The corn dataset from the Ministry: Agriculture, Food and Rural Affairs contains data from the years 1992 to 2023.

The dataset contains 1664 samples and 13 attributes. To obtain the best and valid attributes from the original dataset we will perform feature reduction.

The dataset falls in line and is prepared for performing regression. There are 11 Price Term classes. Table 1 gives the information about the Price categories of each Price Terms

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| Price Terms | Definition |
| Old Crop CBOT Price | This unadjusted basis reflects the difference between the old CBOT price and the old cash price. There is no adjustment in currency valuations |
| Old Crop Weekly Unadjusted Basis | This unadjusted basis reflects the difference between the old CBOT price and the old cash price. There is no adjustment in currency valuations |
| Old Crop Weekly Adjusted Basis | This adjusted basis reflects the difference between the old CBOT price, the old cash price and adjustments in currency valuations. Amount priced in Canadian Dollars |
| Old Crop Weekly Cash Price | Reflects the price producers are currently able to sell their currently harvested crop production. Measured in Canadian Dollars |
| New Crop CBOT Price | Reflects contracts exchanging hands on the commodity exchange at Chicago Board of Trade. Prices are calculated for the closest trading contract period in one years time (reflecting crops that have not been harvested) in American Dollars |
| New Crop Weekly Unadjusted Basis | This unadjusted basis reflects the difference between the new CBOT price and the new cash price. There is no adjustment in currency valuations |
| New Crop Weekly Adjusted Basis | This adjusted basis reflects the difference between the new CBOT price, the new cash price and adjustments in currency valuations. Amount priced in Canadian Dollars |
| New Crop Cash Price | Reflects the price producers are able to secure/sell in one years time their next harvested crop production. Measured in Canadian Dollars |
| Cash Price Spread | Reflects the difference between the old crop cash price and the new crop cash price, a postivie number represents that the old crop cash price is higher than the new crop cash price |
| CBOT Price Spread | Reflects the difference between the old crop CBOT price and the new crop CBOT price, a postivie number represents that the old crop CBOT price is higher than the new crop CBOT price |
| Canadian Dollar Value | The value of Canadian dollar, measured in American dollars, C$/US$ |

Table 1. Price Terms in Ministry of Agriculture, Food and Rural Affairs Corn Dataset

Source: <https://data.ontario.ca/dataset/average-weekly-corn-prices/>