Machine Learning - AssessChallenge - F2021 (Prepr)

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GitHub Project Link: https://github.com/ahmed0316/Machine-Learning---AssessChallenge---F2021

Task 1

For this challenge, it was required to visualize employment/labour data. The Statistics Canada's website was used for the data (https://www150.statcan.gc.ca/n1/daily-quotidien/190308/dq190308a-eng.htm). The entire table was downloaded, which contained data dating back to 1976. Since only data from 2015-2020 was required, the first step was to remove the extra data.

Data cleaning and removal was used through a python script ('CleanData.py'). As well as removing the extra rows, unnecessary columns were also removed. The script took in the raw data (data.csv) and outputted clean data (newData.csv). The new csv file was now able to fit into an Excel document, ready for creating visualizations.

A Pivot Table was used so that all the data would be easily accessible and legible. Furthermore, a graph was made based on this pivot table, that would allow for pivoting within the graph itself. Several sample visualizations were also made.

This dataset would be trained by analyzing the effect of different factors on the employment/labour outcomes. Potential algorithm candidates are regression, neural network, and support vector machine.

Task 2

For Task 2, the correlation between skills and employment was investigated. Firstly, the table was cleaned in Excel by removing rows with insufficient data (lacking preferred/minimum qualifications and responsibilities).

Next, the following new columns were added to aid analysis: Country, School Required. The values in these columns were autogenerated through splitting values and calculations.

Finally, a pivot table was constructed to organize the data and allow for the creation of visualizations. Using this pivot table, visualizations were created.

Final Word

Thank you for your consideration for the Machine Learning internship. I enjoyed completing this project, as it was interesting to investigate the data set and practice my skills. I hope to be able to further discuss the internship with you. Regards, Ahmed.