COMP 4983: Lab Exercise #1

Instructions:

In this lab, you will use Microsoft Azure Machine Learning (AML), a cloud service, visual drag-and-drop authoring environment, to explore the interactions of the different components of a machine learning workflow. There is no programming required, just visually connecting datasets and modules to create your predictive analysis model.

As an exercise, you will

- create a machine learning model that predicts the price of an automobile
- evaluate the performance of your solution

You are not required to deploy your predictive analysis model as a real-time inferencing webpoint.

Part 1: Azure Machine Learning

To get started with AML, create a Microsoft Azure Dev Tools for Students account following the instructions at https://kb.bcit.ca/student/creating-account-accessing-azure-dev-tools-3023/. Note you are not required to enter credit card information to setup the account.

For an introduction to AML,

- reference "Azure Machine Learning documentation" at https://docs.microsoft.com/en-us/azure/machine-learning/
- read "What is Azure Machine Learning designer?" at https://docs.microsoft.com/en-us/azure/machine-learning/concept-designer

Part 2: Azure Machine Learning designer

In this part of the lab, you will create a machine learning model that predicts the price of an automobile using AML using https://ml.azure.com/. Create a regression model that consists of the following workflow to predict the price of an automobile:

1. Create a new pipeline
2. Import data
3. Prepare data
4. Train a machine learning model
5. Evaluate a machine learning model

The detailed instructions are provided in https://docs.microsoft.com/en-us/azure/machine-learning/tutorial-designer-automobile-price-train-score

A completed version of this tutorial is available as a sample pipeline. To find it, go to the designer in your workspace. In the New pipeline section, select Sample 1 - Regression: Automobile Price Prediction (Basic).