|  |
| --- |
| **Experiment No. 9**  **Title: Case study – Big data platform / analytics as business need** |

**Batch: B1** **Roll No.: 1714126**  **Experiment No.: 9**

**Title: Income Group Classification using Azure Machine Learning Studio.**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

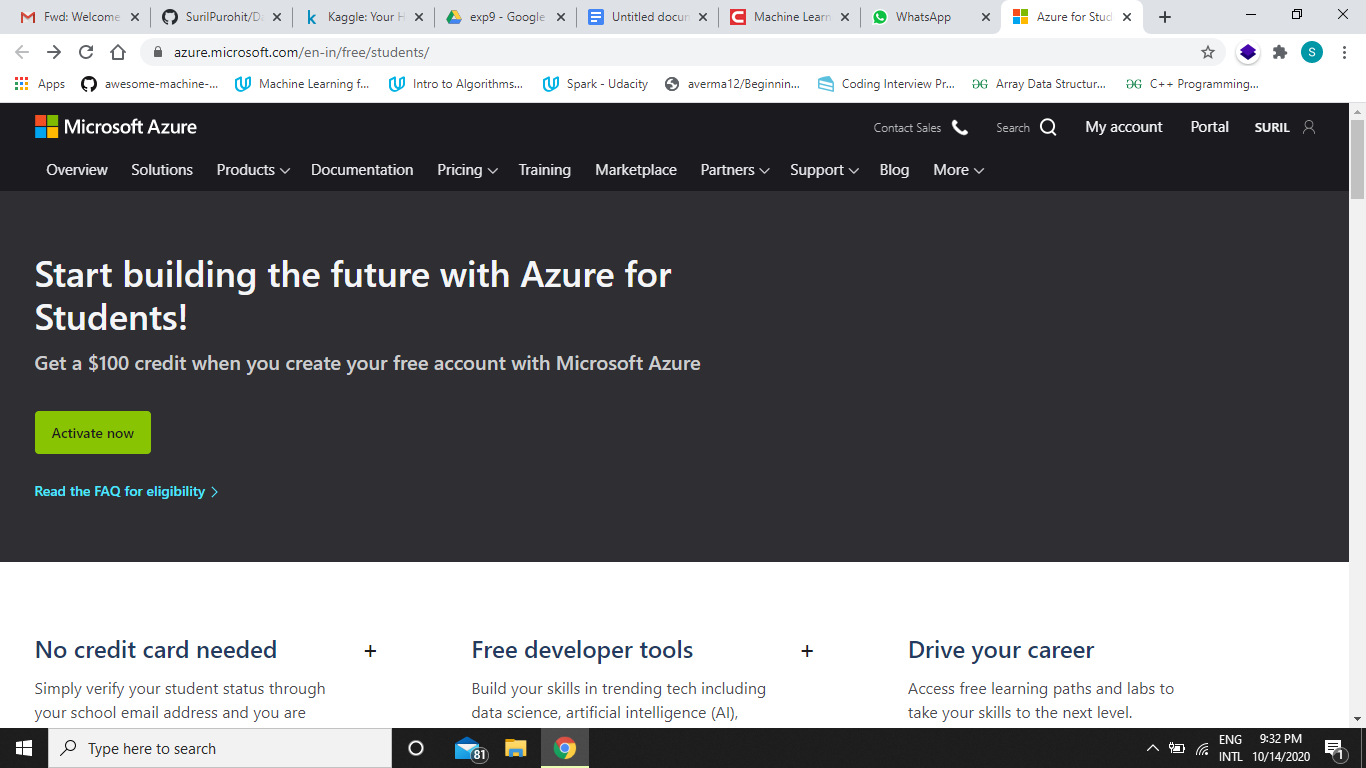
**Resources needed: Microsoft Azure Machine Learning Studio**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

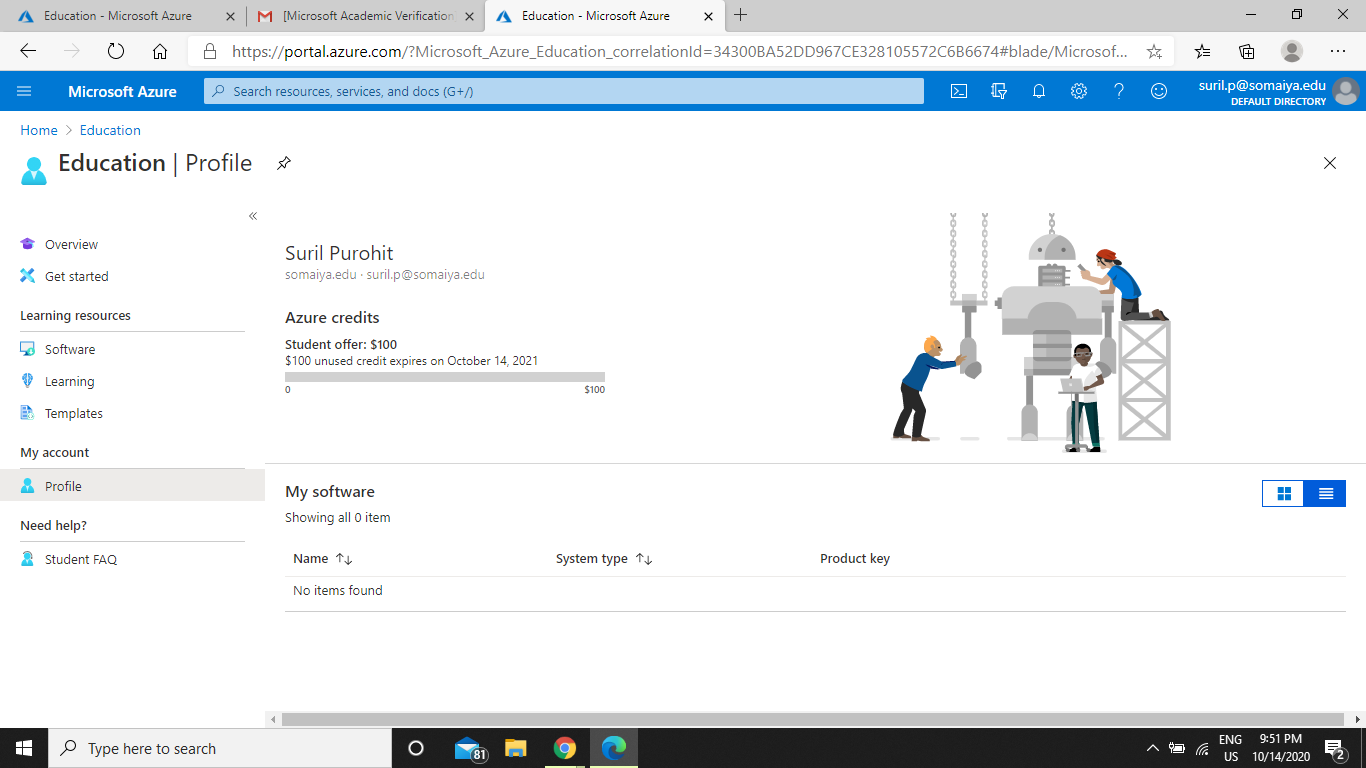
**Results:**

**Case Study: It is based on identifying which Income group a person exists using decision tree algorithm using Microsoft Azure ML Studio.**

**Activate the student pack and login with Somaiya ID.**



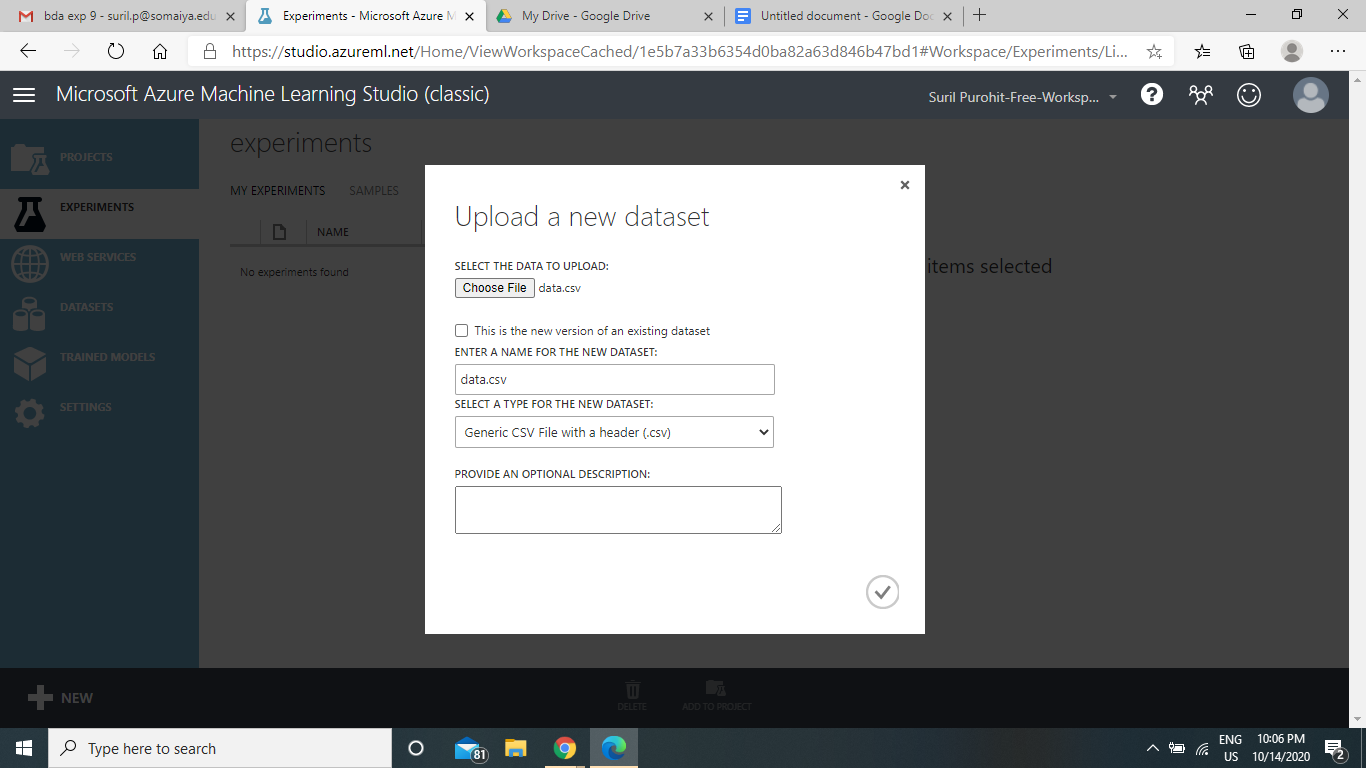
**You will be rewarded 100$ initially.**



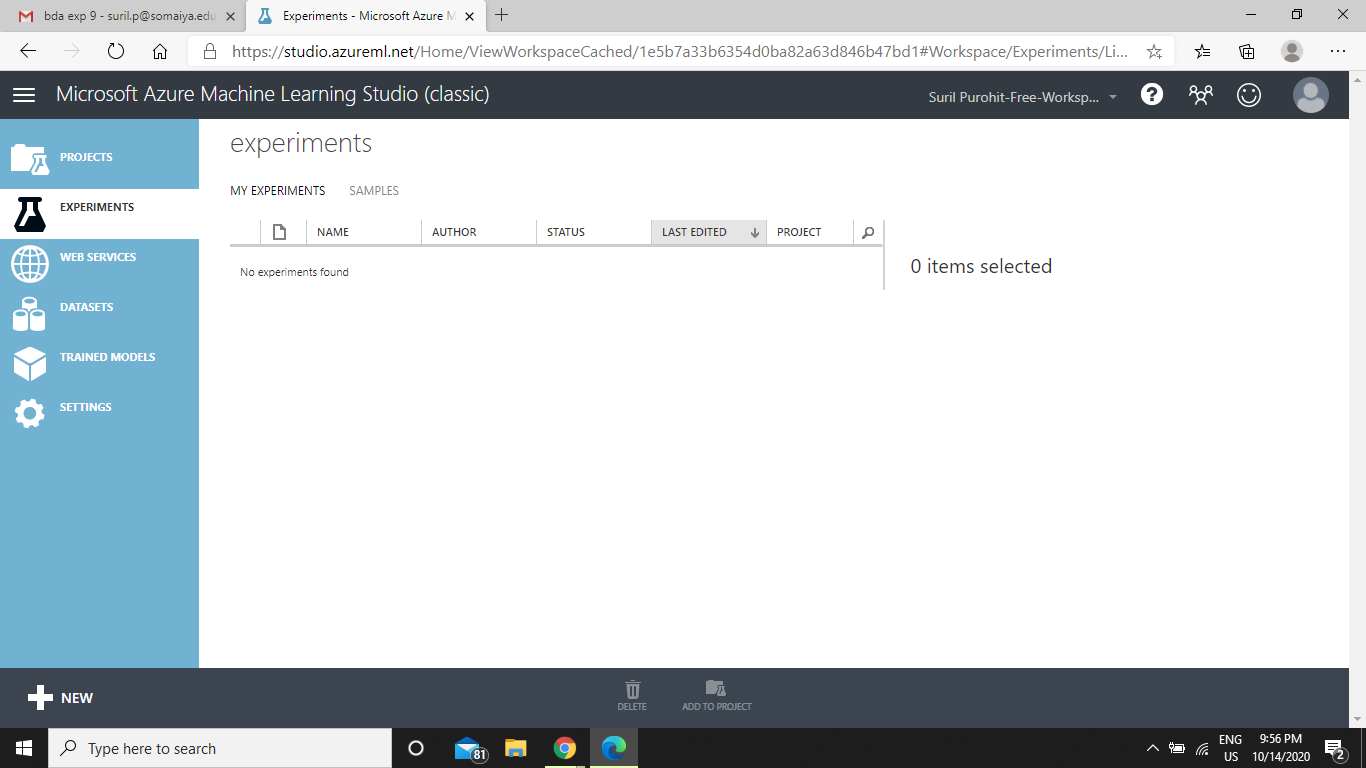
**We have used the Microsoft Azure Machine Learning studio to execute a machine learning algorithm.**

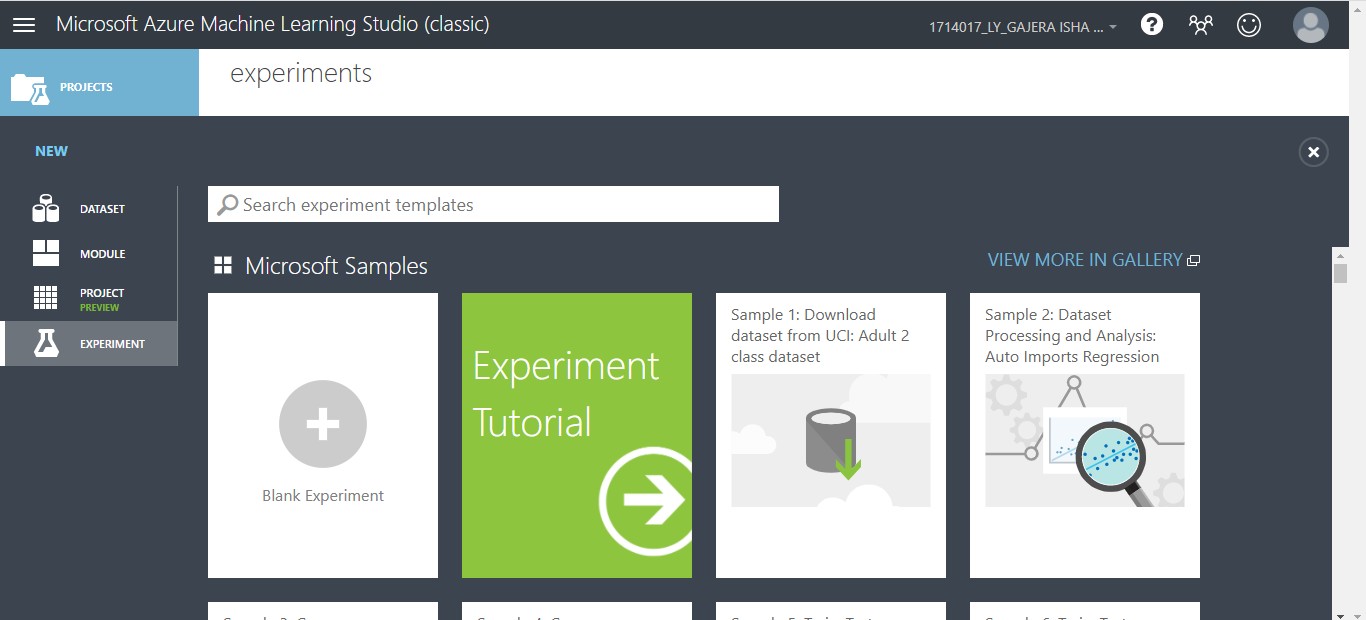
**Following are the steps for the same:**

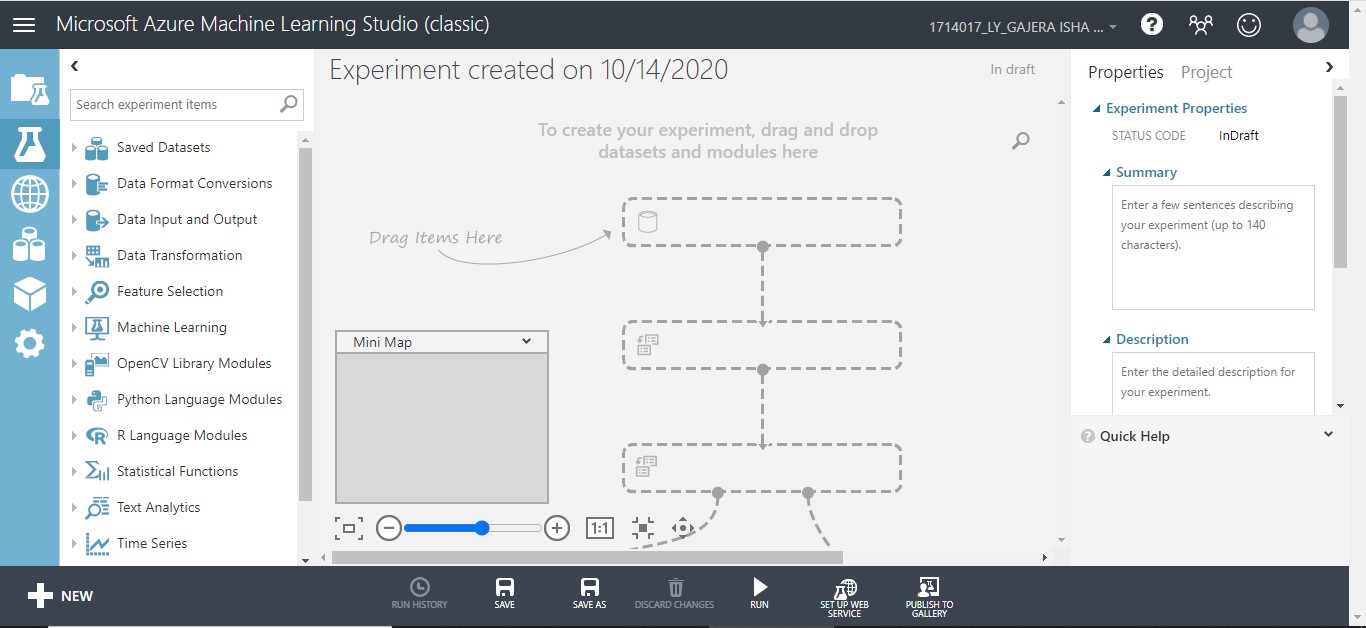
* 1. **Add dataset**



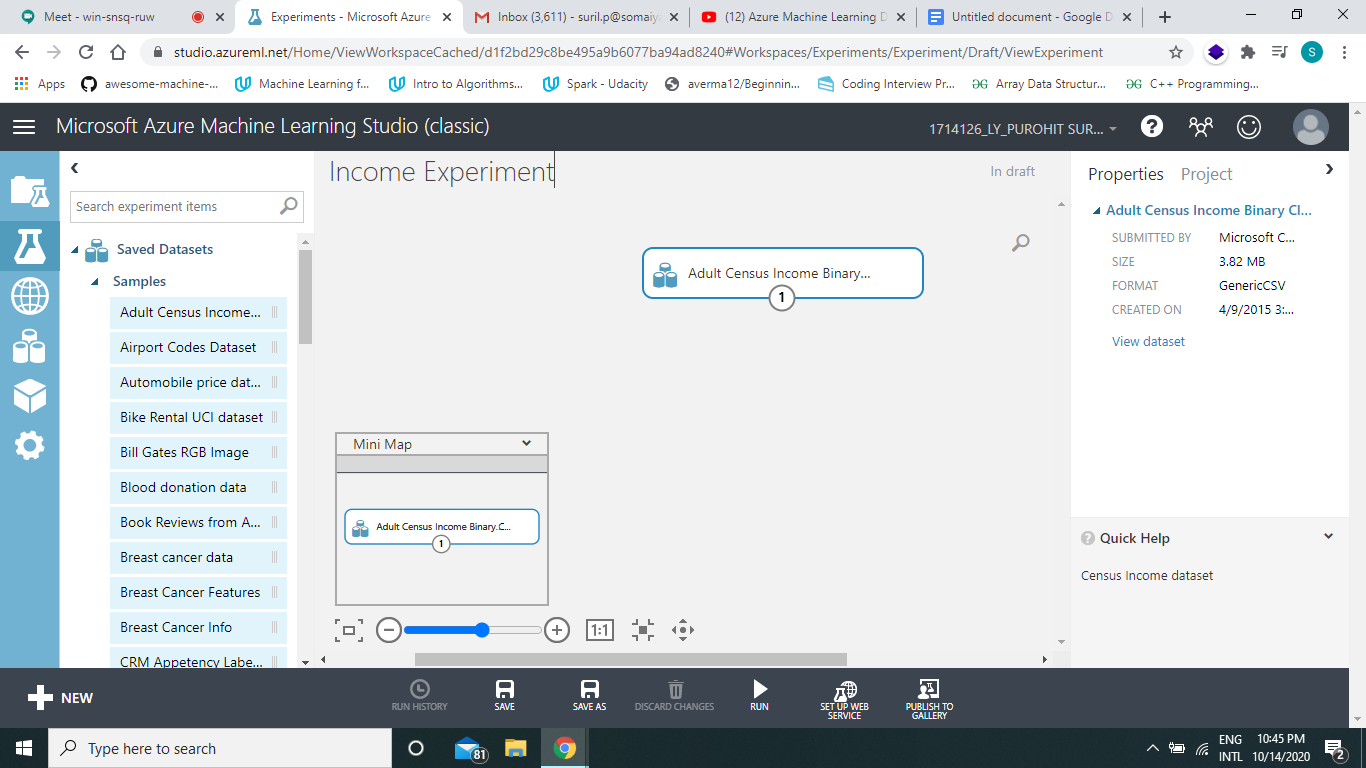
* 1. **Create new experiment**



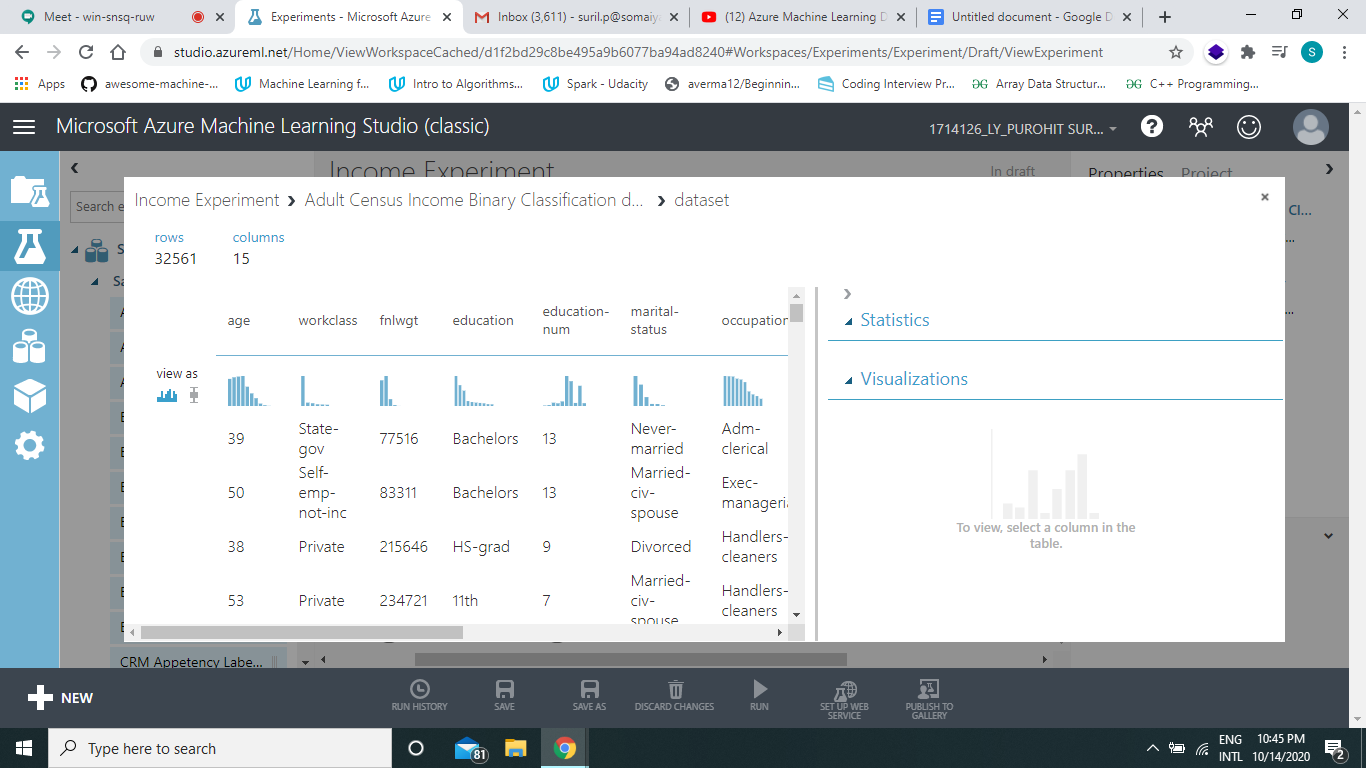




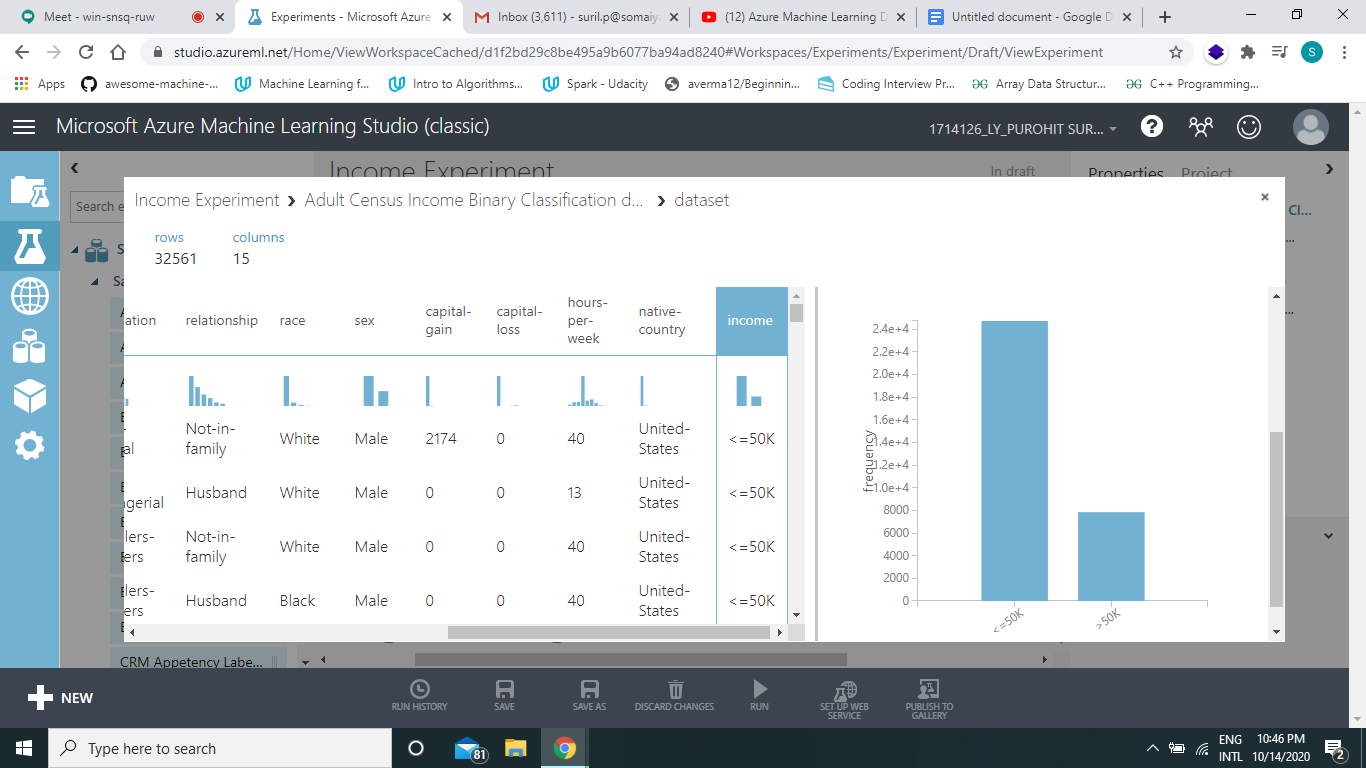
* 1. **Adding dataset from saved datasets of Azure to experiment**



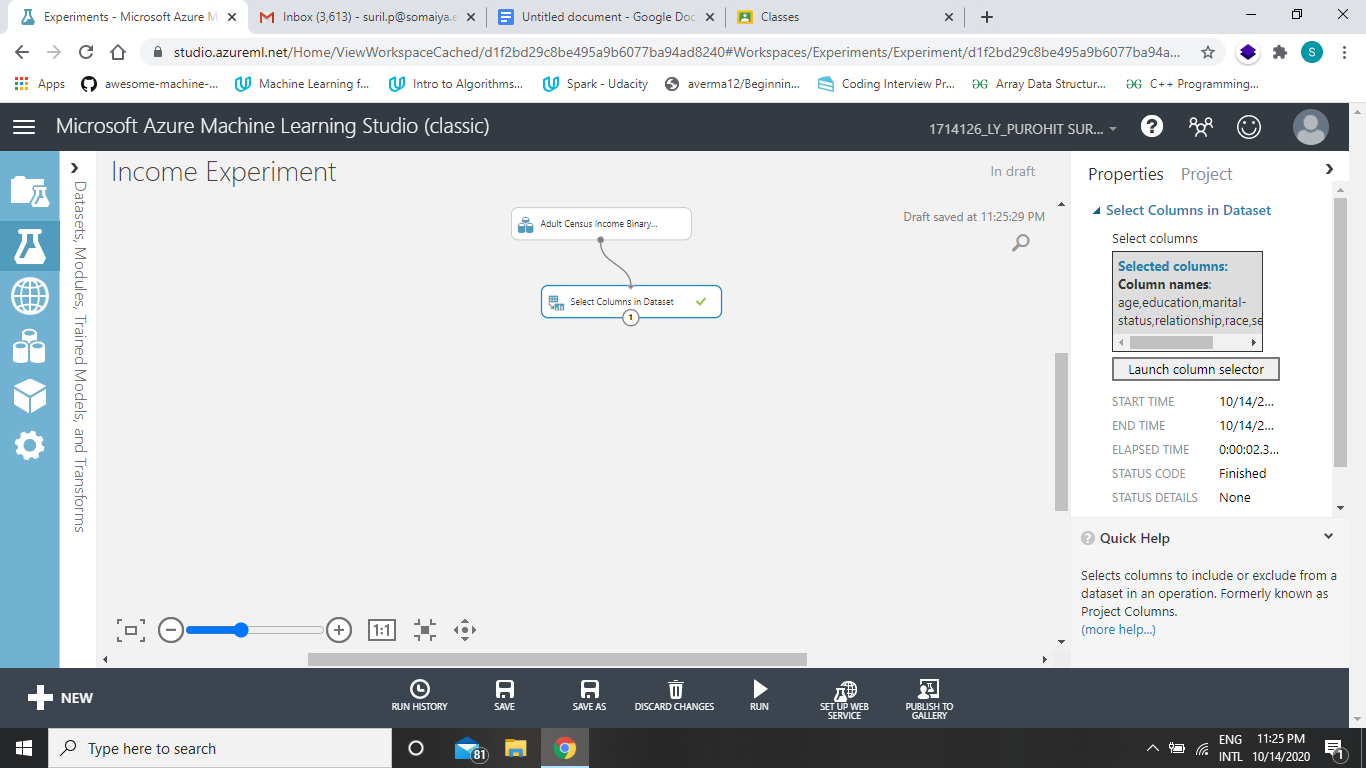
**Visualizing the dataset**



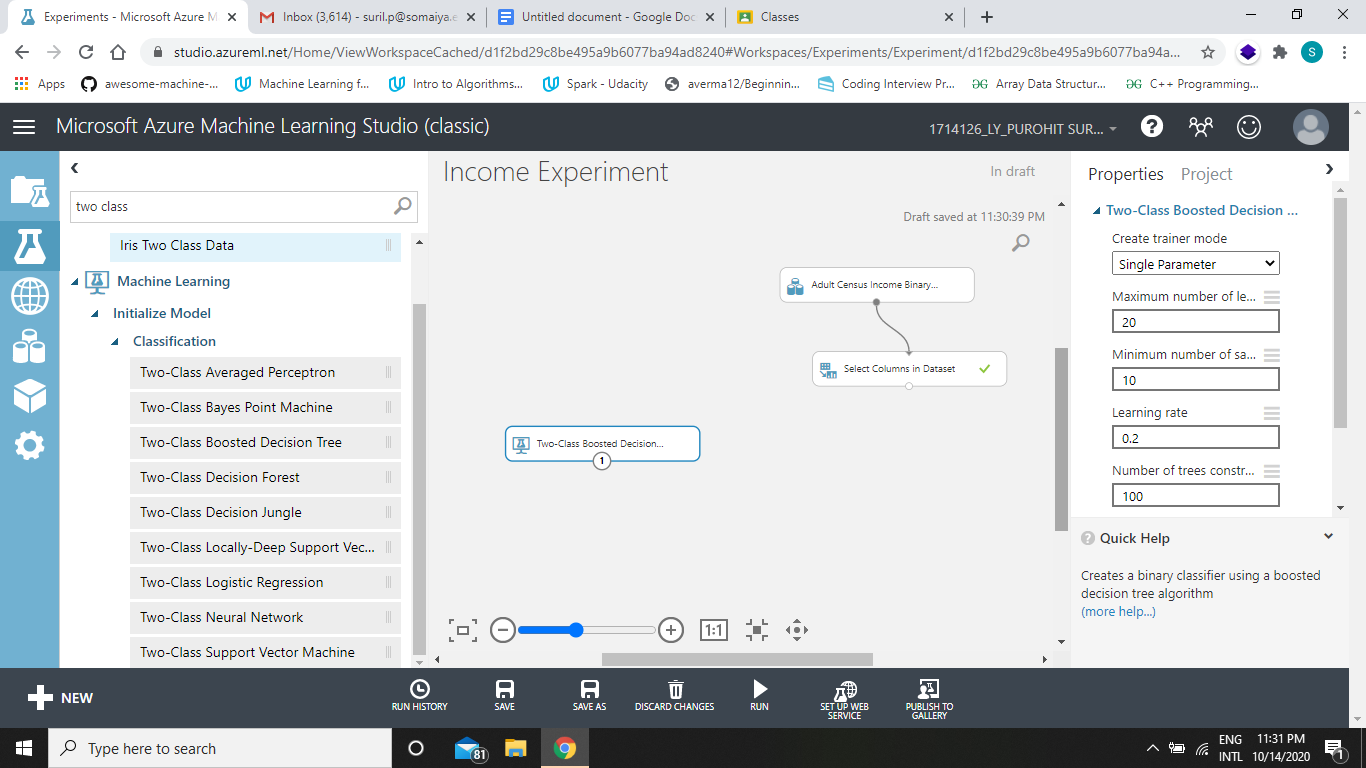
**Two category of income column**



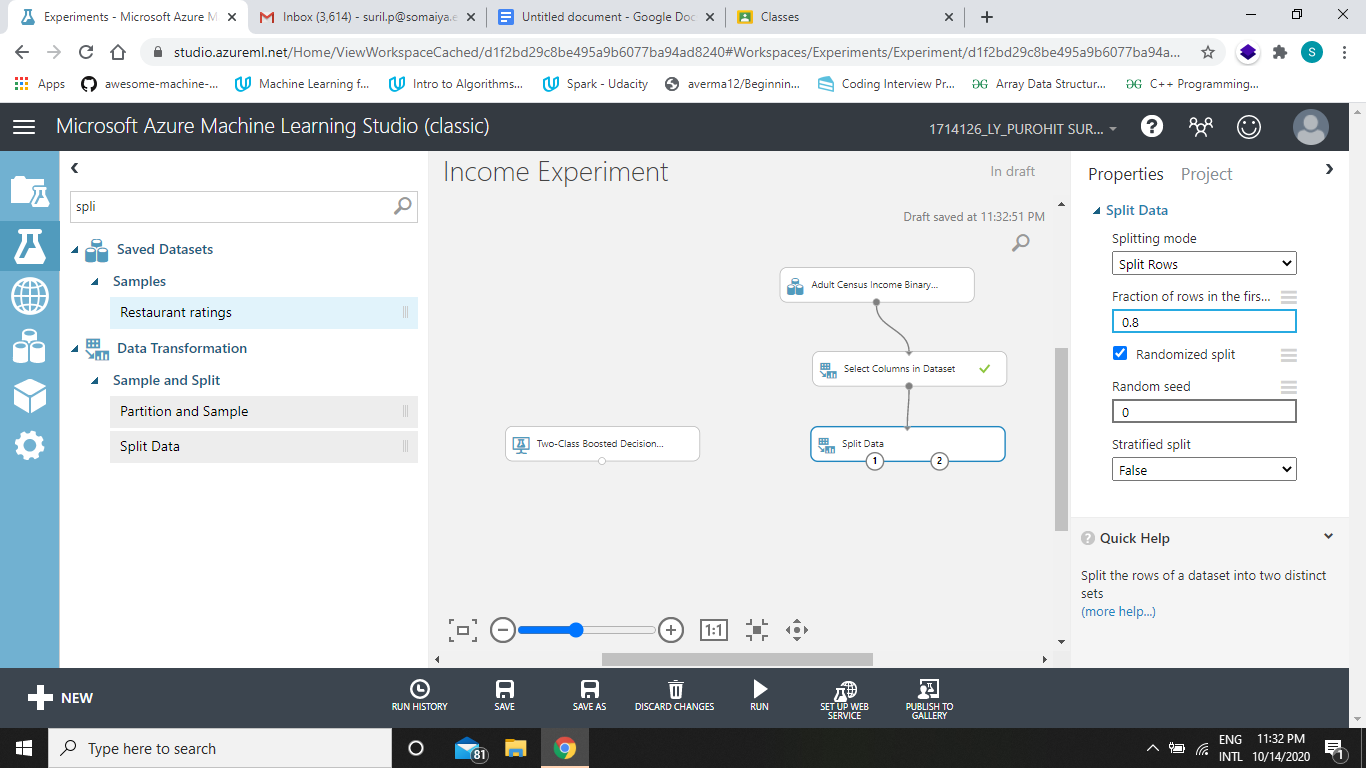
* 1. **Select from age, education, marital status, relationship, sex, race and income**



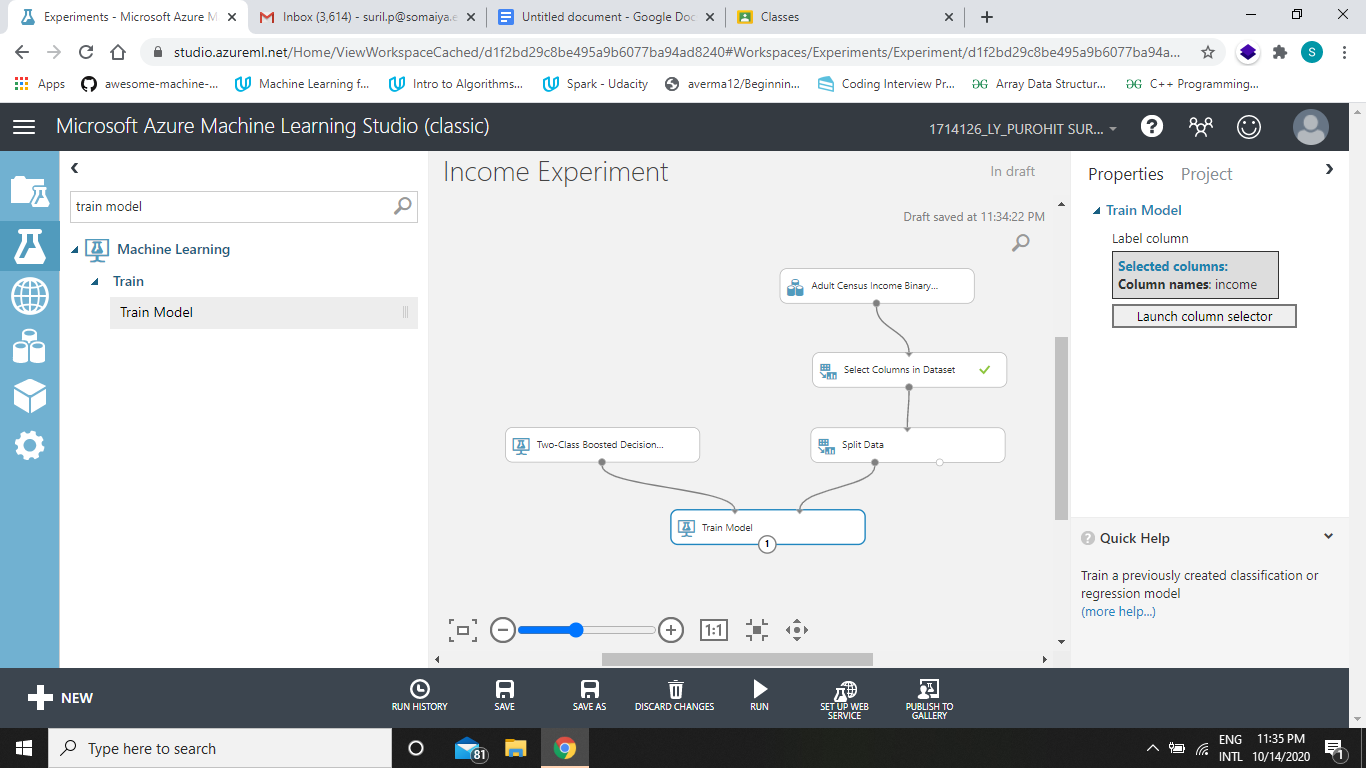
* 1. **Added Two Class Boosted Decision Tree for better performance**



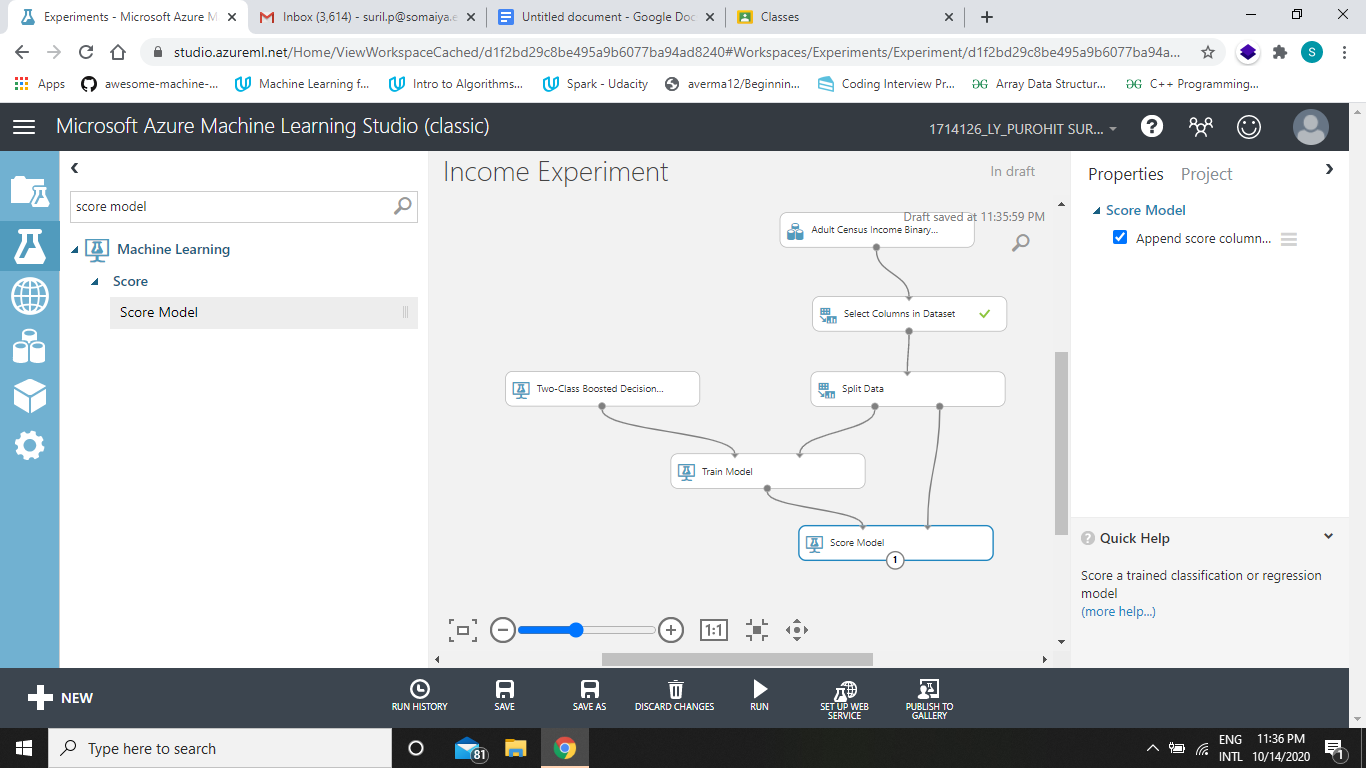
* 1. **Split data 0.8 i.e. 80% train and 20% test**



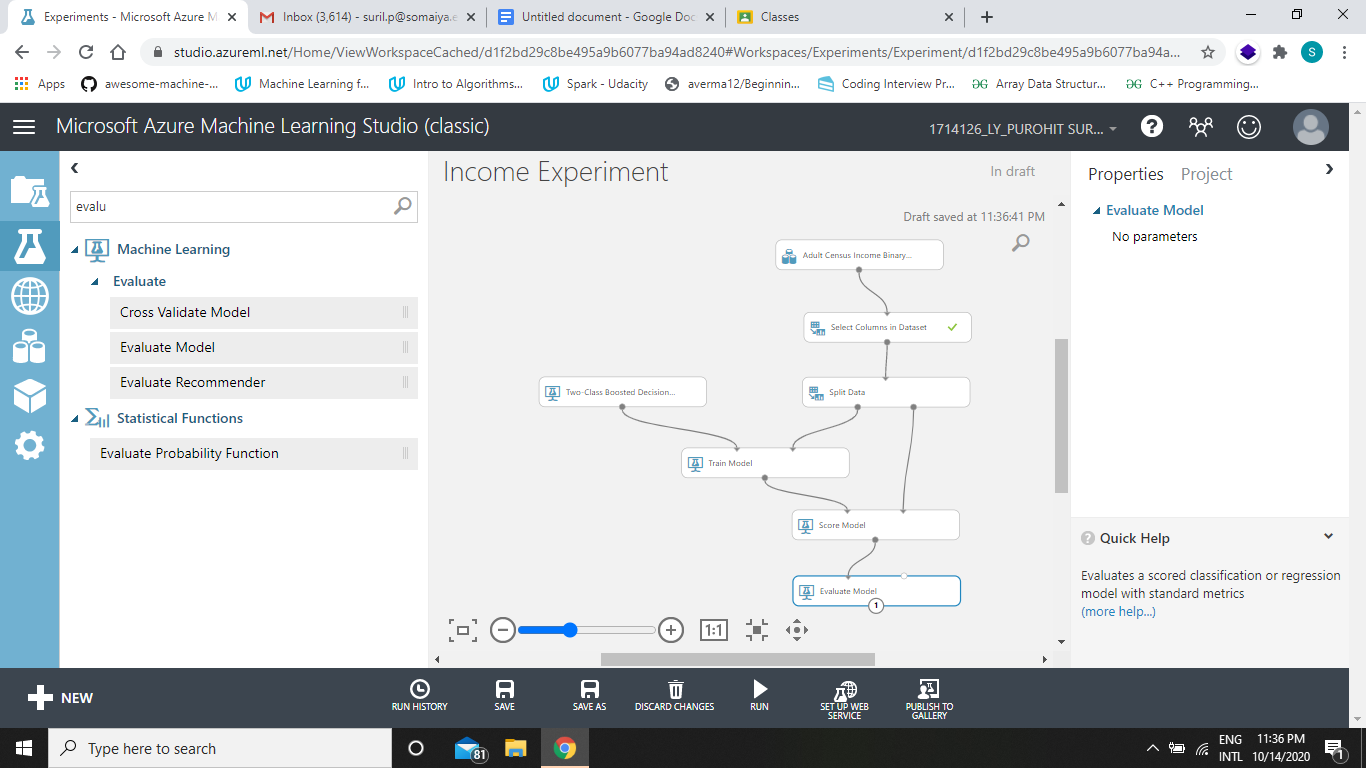
* 1. **Train Model and select a attribute to train and test on. In this case we have chosen Income column.**

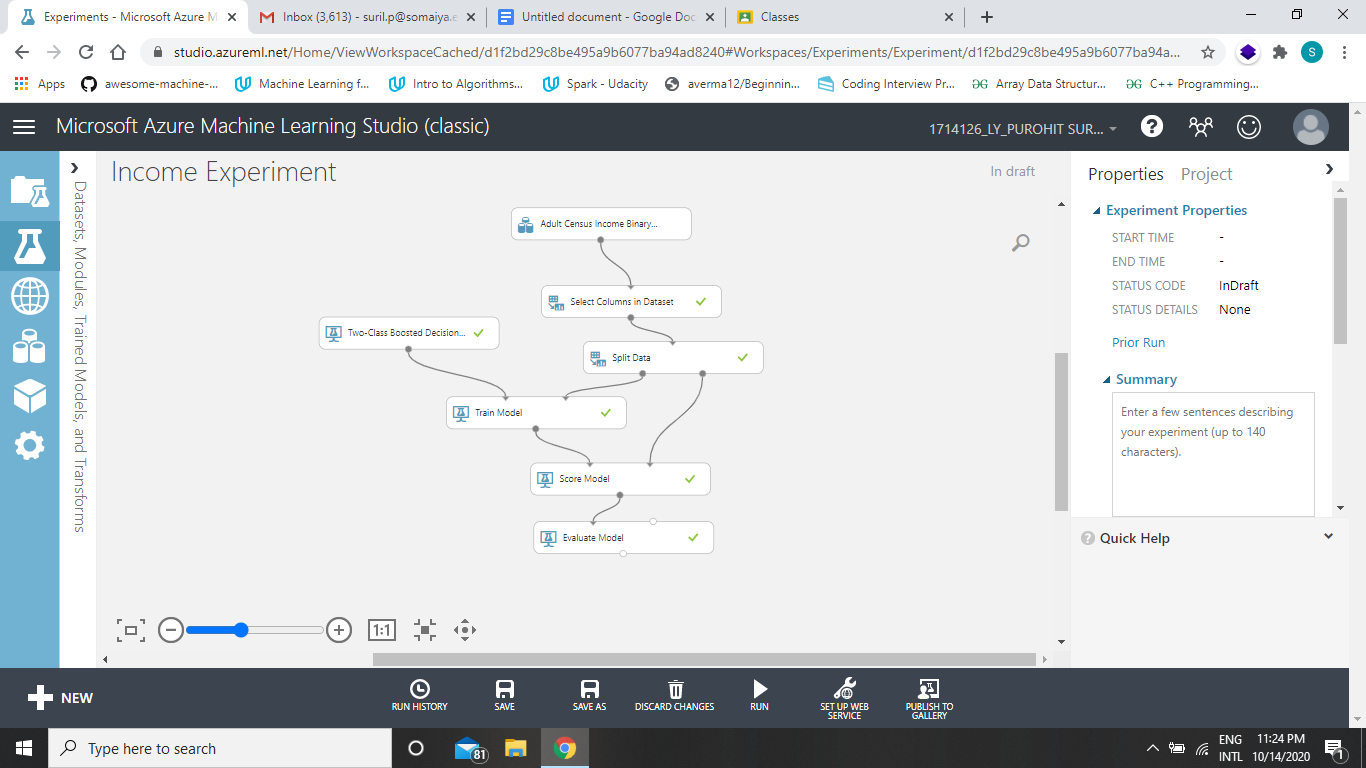


* 1. **Add the score model in order to see the effectiveness of the trained model.**

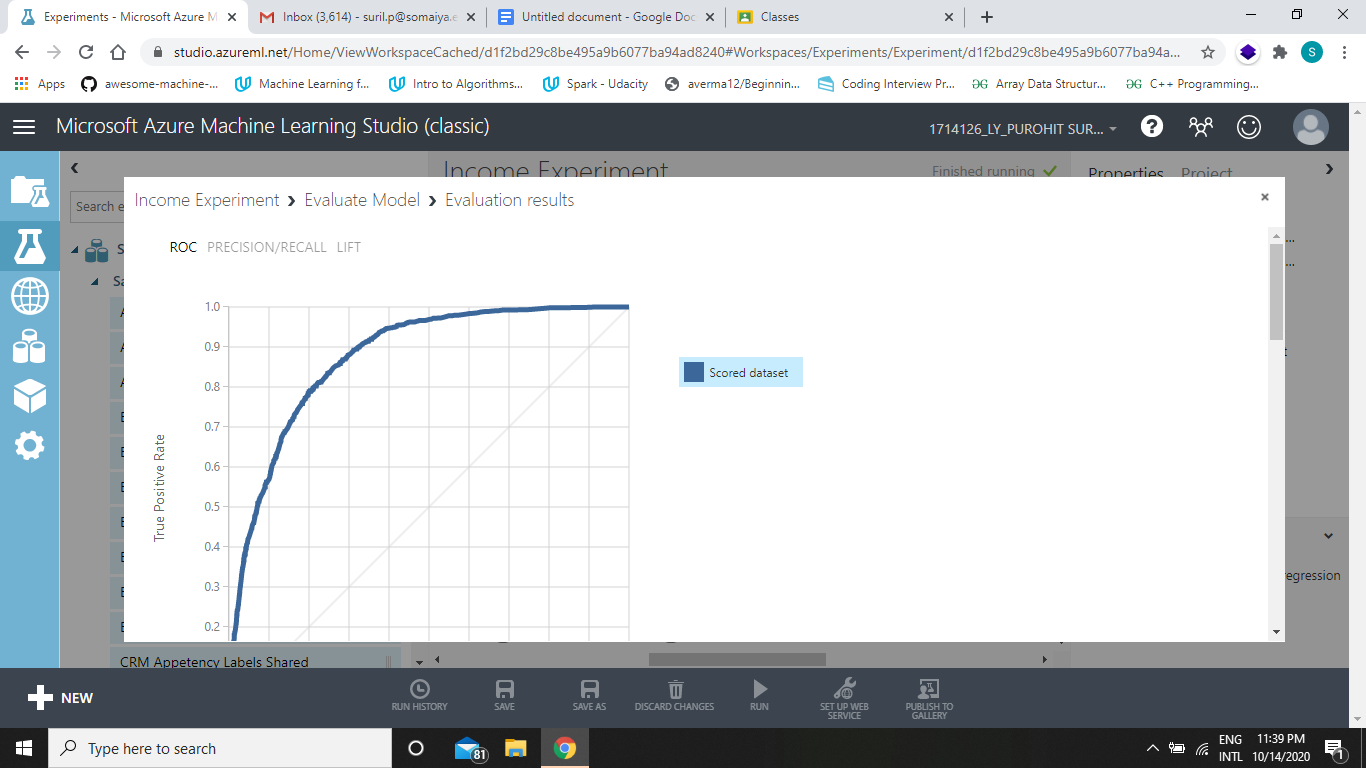


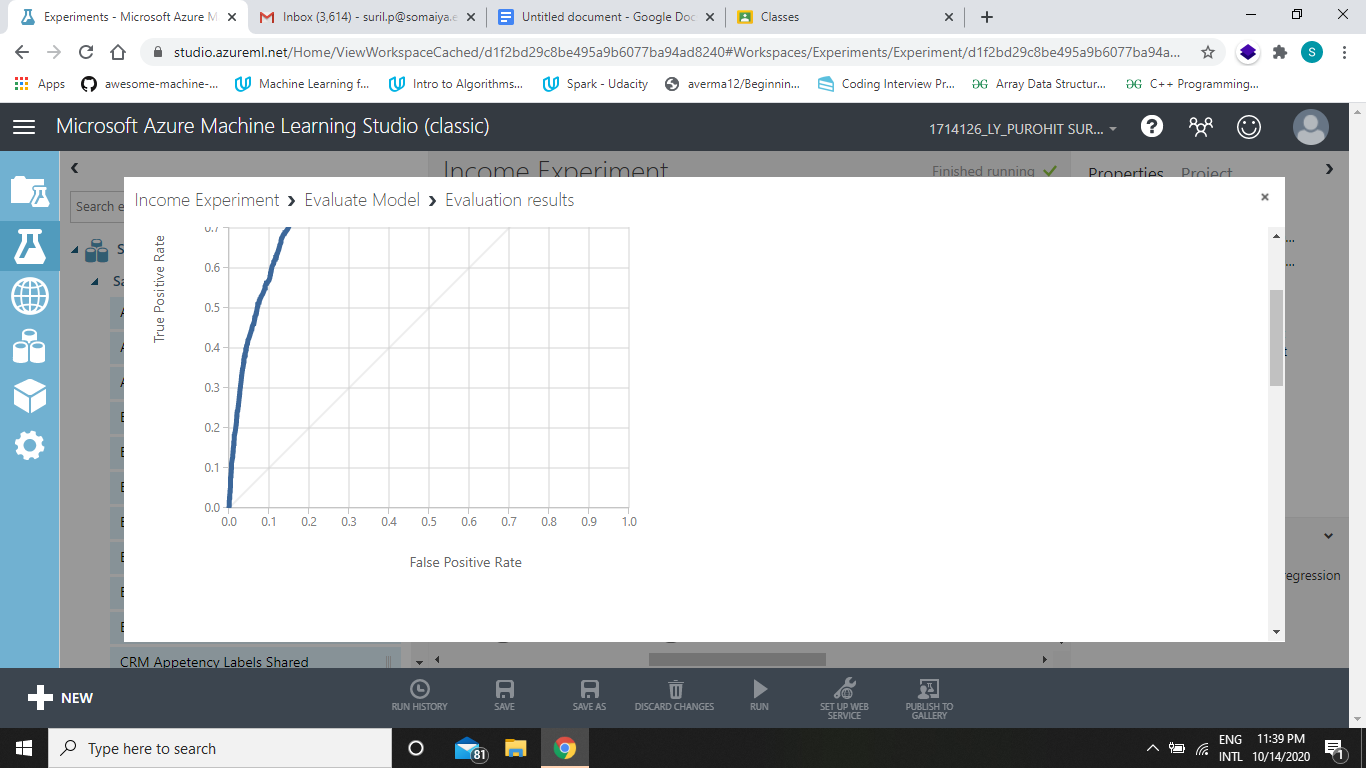
* 1. **Evaluating the model and viewing the results.**



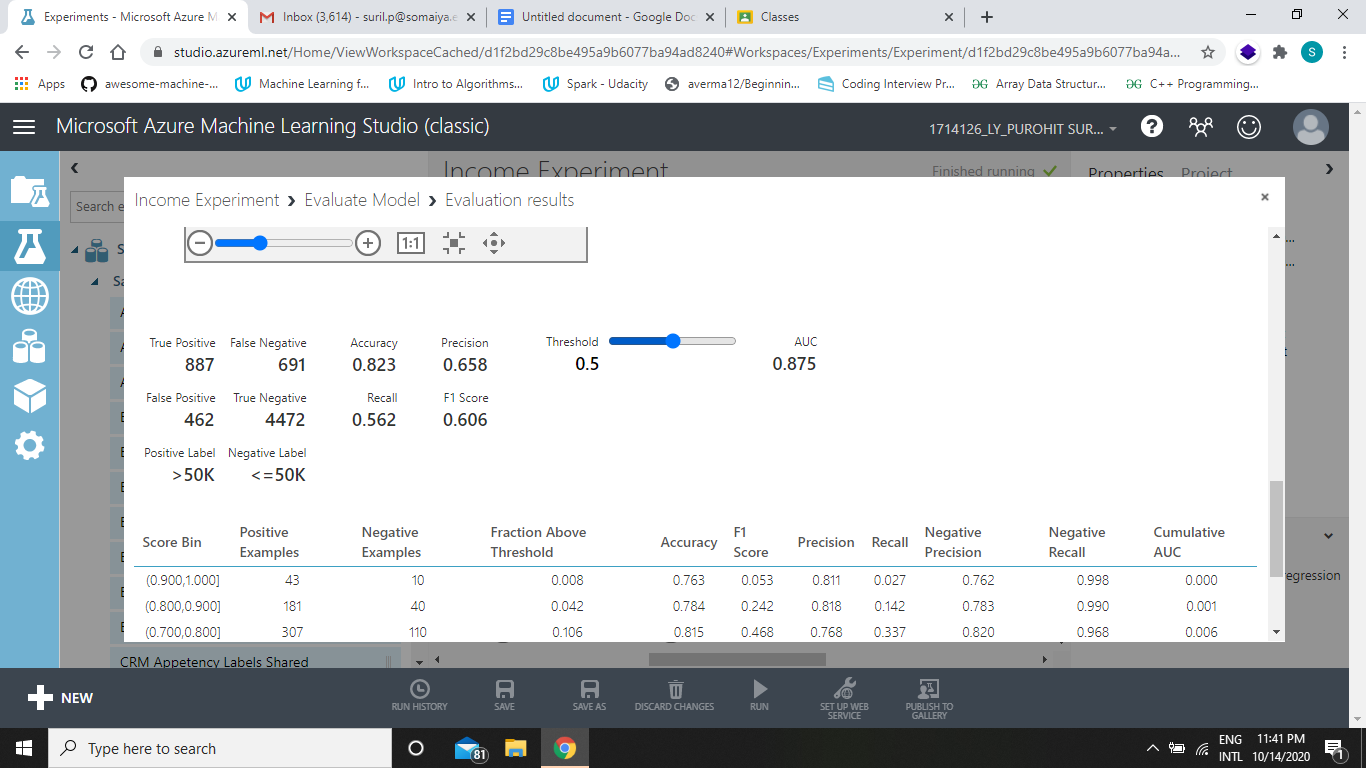


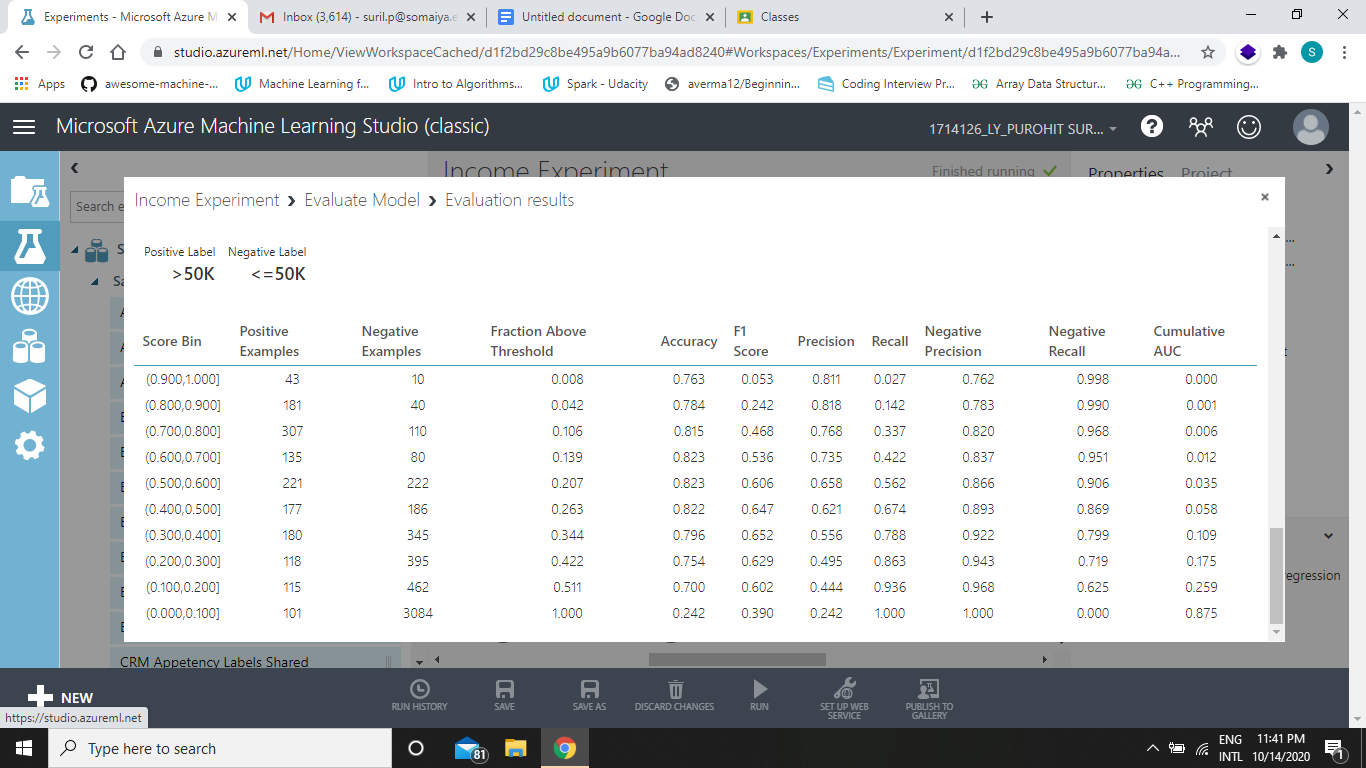
* 1. **Visualization and Stats of result obtained.**



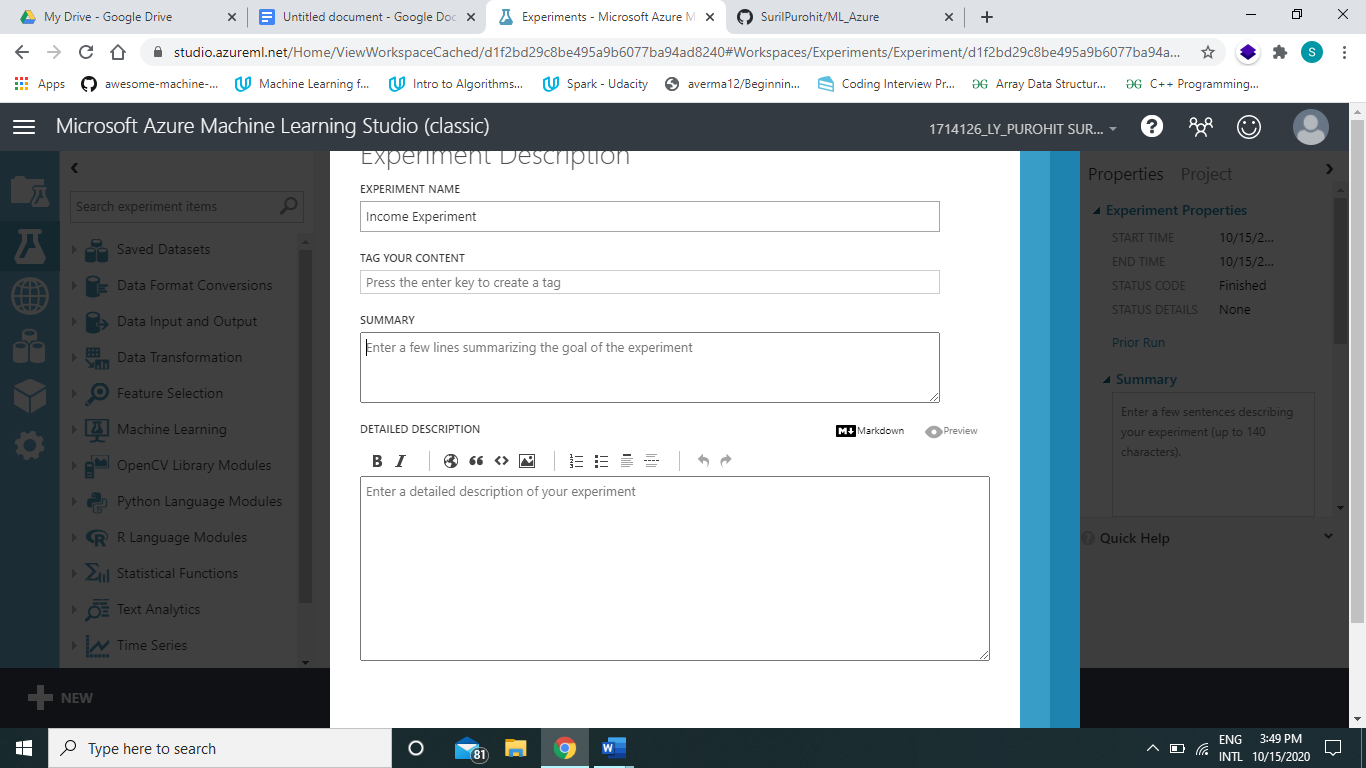


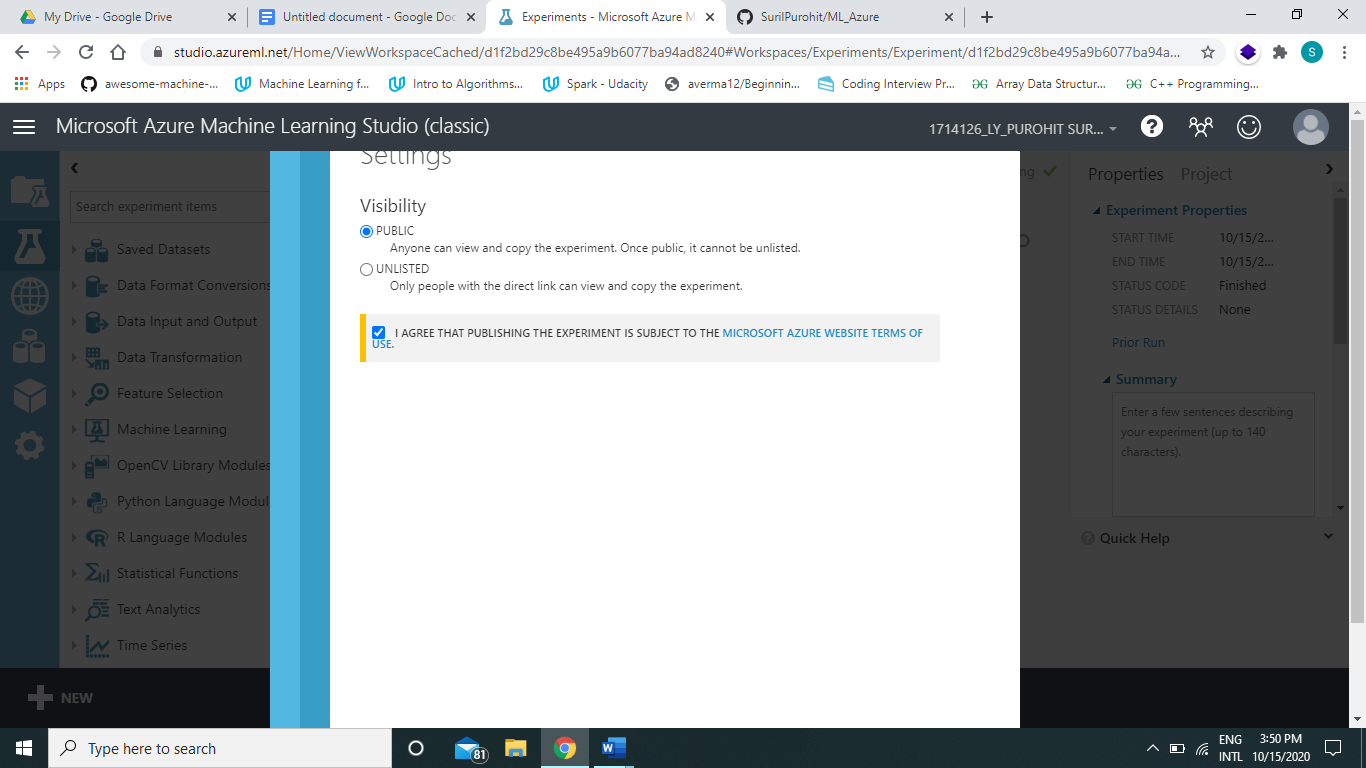






* 1. **Pushing to Gallery**





**Azure Gallery Link: https://gallery.cortanaintelligence.com/Experiment/Income-Experiment-12**

**GitHub Project Link: https://github.com/SurilPurohit/Income\_Classification**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Outcomes: Realize adequate perspectives of big data analytics in various applications.**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Conclusion:** Therefore, I was able to explore Microsoft Azure ML Studio and Implement decision tree algorithm on the same for the dataset where I had to identify on which income group particular person was part of based on attributes like sex, age, marital status etc.

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Grade: AA / AB / BB / BC / CC / CD /DD**

**Signature of faculty in-charge with date**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**References:**

**Books/ Journals/ Websites:**

1. <https://www.datasciencecentral.com/profiles/blogs/microsoft-azure-ml-studio-a-tutorial-on-how-to-create-a-churn>
2. <https://studio.azureml.net/>
3. <https://docs.microsoft.com/en-us/azure/machine-learning/classic/sample-experiments>
4. <https://thenewstack.io/tutorial-build-an-end-to-end-azure-ml-pipeline-with-the-python-sdk/>
5. <https://www.codemag.com/article/1709071/Getting-Started-with-Machine-Learning-Using-Microsoft-Azure-ML-Studio>
6. <https://www.youtube.com/watch?v=csFDLUYnq4w>