**Fairness in Machine Learning**

INSTRUCTIONS:

Dataset: <https://archive.ics.uci.edu/ml/datasets/adult>

1. Name your file **fairness.py**.
2. The data file is already downloaded in GradeScope but you can also download the data from [hereLinks to an external site.](https://archive.ics.uci.edu/ml/datasets/adult" \t "_blank) if you want to test it on your local machine. You need to download all three files named adult.data, adult.names and adult.test. To run it locally you would need to install aif360 using the command "pip install aif360[all]".
3. Copy and paste it to the adult folder present at the location aif360/data/raw/adult in the aif360 package
4. Get the dataset and split it into train and test
5. You need to create two different Adversarial models one with debiasing other without debiasing
6. Use ClassificationMetric from the metrics module to get all the classification metrics for the predicted and original test data
7. Store balanced classification accuracy, and equal opportunity difference for both models as plain\_model\_classification\_accuracy, plain\_model\_equal\_opportunity\_difference, debias\_model\_classification\_accuracy, debias\_model\_equal\_opportunity\_difference respectively.
8. Remember don’t cheat by just assigning values to these variables, otherwise, you will get 0 immediately.
9. Please see more details in the templates.