

ADULT INCOME ANALYSIS

OBED OKORO



PROJECT DESCRIPTION

The purpose of this project is to predict the income made by adults from all kinds of demographic. Giving an individual's annual income from various factors, but also influenced by their paths across life.

ADULT INCOME DATASET

- This dataset was sourced from <https://www.kaggle.com/datasets/wenruliu/adult-income-dataset>
- The dataset employed 15 features for predicting different individual's income

	adult															
	age	workclass	fnlwgt	education	educational-num	marital-status	occupation	relationship	race	gender	capital-gain	capital-loss	hours-per-week	native-country	income	
1	25	Private	226802	11th	7	Never-married	Machine-op-inspct	Own-child	Black	Male	0	0	40	United-States	<=50K	
2	38	Private	89814	HS-grad	9	Married-civ-spouse	Farming-fishing	Husband	White	Male	0	0	50	United-States	<=50K	
4	28	Local-gov	336951	Assoc-acdm	12	Married-civ-spouse	Protective-serv	Husband	White	Male	0	0	40	United-States	>50K	
5	44	Private	160323	Some-college	10	Married-civ-spouse	Machine-op-inspct	Husband	Black	Male	7688	0	40	United-States	>50K	
6	18	?	103497	Some-college	10	Never-married	?	Own-child	White	Female	0	0	30	United-States	<=50K	
7	34	Private	198693	10th	6	Never-married	Other-service	Not-in-family	White	Male	0	0	30	United-States	<=50K	
8	29	?	227026	HS-grad	9	Never-married	?	Unmarried	Black	Male	0	0	40	United-States	<=50K	
9	63	Self-emp-not-inc	104626	Prof-school	15	Married-civ-spouse	Prof-specialty	Husband	White	Male	3103	0	32	United-States	>50K	
10	24	Private	369667	Some-college	10	Never-married	Other-service	Unmarried	White	Female	0	0	40	United-States	<=50K	
11	55	Private	104996	7th-8th	4	Married-civ-spouse	Craft-repair	Husband	White	Male	0	0	10	United-States	<=50K	
12	65	Private	184454	HS-grad	9	Married-civ-spouse	Machine-op-inspct	Husband	White	Male	6418	0	40	United-States	>50K	
13	36	Federal-gov	212465	Bachelors	13	Married-civ-spouse	Adm-clerical	Husband	White	Male	0	0	40	United-States	<=50K	
14	26	Private	82091	HS-grad	9	Never-married	Adm-clerical	Not-in-family	White	Female	0	0	39	United-States	<=50K	

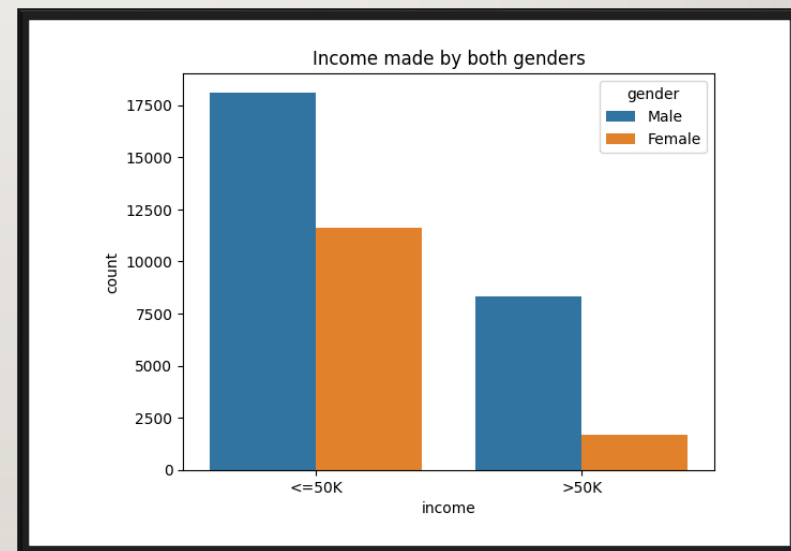
An illustration from a top-down perspective showing five business professionals seated around a circular brown table. The individuals are depicted in various poses: one on the left is looking at a laptop, another at the top is holding a document, one on the right is holding a smartphone, and one at the bottom is using a calculator. The background is a dark grey gradient. The word 'STAKEHOLDERS' is written in white capital letters on the left side of the image.

STAKEHOLDERS

This analysis will be utilized by an Ads management company in order to know where and who to promote and advertise their products to.

KEY FINDINGS

- In the diagram we can see that most individuals make less than \$50,000 income, but those whose income are higher than \$50,000 are the males.
- This helps the company narrow down their search and locate their target audience that can afford the products being brought their way.

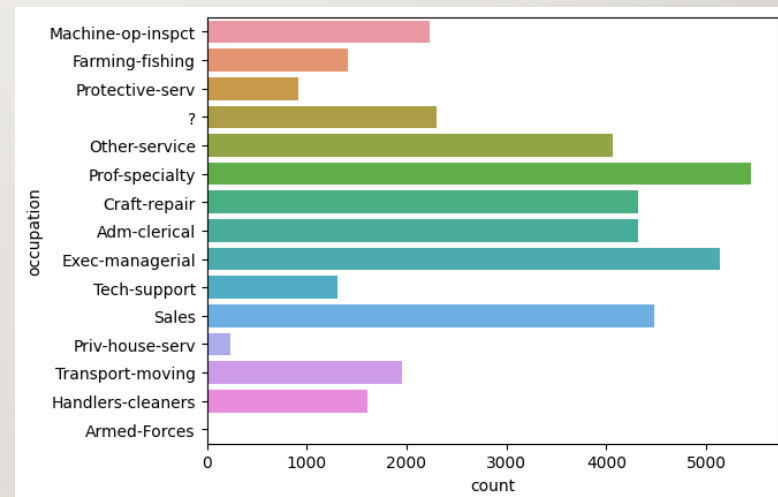


KEY FINDINGS

- Occupations most individuals covered were the ones with specialties
- The least was a Private house server.

A prof-specialty job is one that requires highly specialized training or experience.

Also jobs one can get with a bachelor's degree.



MODEL EVALUATION

Model:

- The tuned KNN Model gave the best prediction on individual's income.
- The primary metric was the accuracy, which was 84% on the testing data.
 - This means that 84% of our model's prediction on every individual's income were correct.
- It also had a recall of 93%
 - a recall of 93% is an indication that our model successfully captured a large portion of the positive instances.

RECOMMENDATIONS



Increase minimum
wage



Affordable
housing



Promote financial
literacy



Promote
Entrepreneurship