

Name: Runtian Wang

Batch code: LISUM14

Submission data: 10/28/2022

Submitted to: <https://github.com/runtia>

Firstly, I run the module, this will train a module and save it in the pickle.

```
D:\pythonProject\Flask deployment>py preprocessing.py
{'workclass': {'?': 0, 'Federal-gov': 1, 'Local-gov': 2, 'Never-worked': 3, 'Private': 4, 'Self-emp-inc': 5, 'Self-emp-not-inc': 6, 'State-gov': 7, 'Without-pay': 8}, 'race': {'Amer-Indian-Eskimo': 0, 'Asian-Pac-Islander': 1, 'Black': 2, 'Other': 3, 'White': 4}, 'education': {'10th': 0, '11th': 1, '12th': 2, '1st-4th': 3, '5th-6th': 4, '7th-8th': 5, '9th': 6, 'Assoc-acdm': 7, 'Assoc-voc': 8, 'Bachelors': 9, 'Doctorate': 10, 'HS-grad': 11, 'Masters': 12, 'Preschool': 13, 'Prof-school': 14, 'Some-college': 15}, 'marital-status': {'Divorced': 0, 'Married-AF-spouse': 1, 'Married-civ-spouse': 2, 'Married-spouse-absent': 3, 'Never-married': 4, 'Separated': 5, 'Widowed': 6}, 'occupation': {'?': 0, 'Adm-clerical': 1, 'Armed-Forces': 2, 'Craft-repair': 3, 'Exec-managerial': 4, 'Farming-fishing': 5, 'Handlers-cleaners': 6, 'Machine-op-inspct': 7, 'Other-service': 8, 'Priv-house-serv': 9, 'Prof-specialty': 10, 'Protective-serv': 11, 'Sales': 12, 'Tech-support': 13, 'Transport-moving': 14}, 'relationship': {'Husband': 0, 'Not-in-family': 1, 'Other-relative': 2, 'Own-child': 3, 'Unmarried': 4, 'Wife': 5}, 'gender': {'Female': 0, 'Male': 1}, 'native-country': {'?': 0, 'Cambodia': 1, 'Canada': 2, 'China': 3, 'Columbia': 4, 'Cuba': 5, 'Dominican-Republic': 6, 'Ecuador': 7, 'El-Salvador': 8, 'England': 9, 'France': 10, 'Germany': 11, 'Greece': 12, 'Guatemala': 13, 'Haiti': 14, 'Holand-Netherlands': 15, 'Honduras': 16, 'Hong': 17, 'Hungary': 18, 'India': 19, 'Iran': 20, 'Ireland': 21, 'Italy': 22, 'Jamaica': 23, 'Japan': 24, 'Laos': 25, 'Mexico': 26, 'Nicaragua': 27, 'Outlying-US(Guam-USVI-etc)': 28, 'Peru': 29, 'Philippines': 30, 'Poland': 31, 'Portugal': 32, 'Puerto-Rico': 33, 'Scotland': 34, 'South': 35, 'Taiwan': 36, 'Thailand': 37, 'Trinidad&Tobago': 38, 'United-States': 39, 'Vietnam': 40, 'Yugoslavia': 41}, 'income': {'<=50K': 0, '>50K': 1}}
Decision Tree using Gini Index
Accuracy is 83.13031016480704
```

Next, I run the flask, this will create an API for the website. So I can see the ML prediction on the website.

Income Prediction Form

Age	<input type="text"/>
Working Class	<input type="text" value="Federal-gov"/>
Education	<input type="text" value="10th"/>
Marital Status	<input type="text" value="divorced"/>
Occupation	<input type="text" value="Adm-clerical"/>
Relationship	<input type="text" value="Husband"/>
Race	<input type="text" value="Amer Indian Eskimo"/>
Gender	<input type="text" value="Female"/>
Capital Gain	<input type="text"/> btw:[0-99999]
Capital Loss	<input type="text"/> btw:[0-4356]
Hours per Week	<input type="text"/> btw:[1-99]
Native Country	<input type="text" value="Cambodia"/>
<input type="button" value="Submit"/>	

Then, I can input some value in the blank, making the module to predict the result

Income Prediction Form

Age	<input type="text" value="20"/>	
Working Class	<input type="text" value="Federal-gov"/>	▼
Education	<input type="text" value="10th"/>	▼
Marital Status	<input type="text" value="divorced"/>	▼
Occupation	<input type="text" value="Adm-clerical"/>	▼
Relationship	<input type="text" value="Husband"/>	▼
Race	<input type="text" value="Amer Indian Eskimo"/>	▼
Gender	<input type="text" value="Male"/>	▼
Capital Gain	<input type="text" value="100"/>	btw:[0-99999]
Capital Loss	<input type="text" value="100"/>	btw:[0-4356]
Hours per Week	<input type="text" value="48"/>	btw:[1-99]
Native Country	<input type="text" value="Cambodia"/>	▼
<input type="button" value="Submit"/>		

← → ↻ ⓘ 127.0.0.1:5000/result

Income less that 50K