Wireframe Documentation
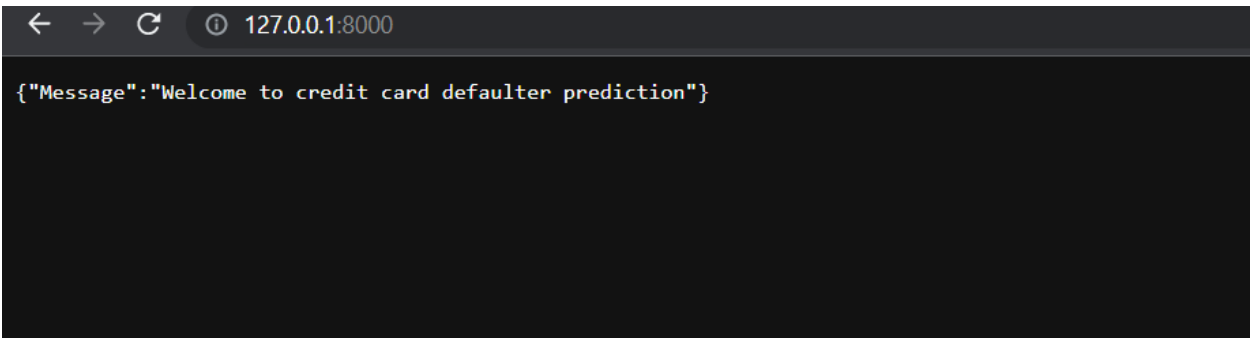
Credit Card Default Prediction

Home page

The model is deployed in FastAPI as an API and after running the link to the connection at 127.0.0.1:8000, the user is greeted with a home page as seen below

```
if __name__ == '__main__':
    uvicorn.run(app, host = '127.0.0.1', port = 8000)
```

```
INFO:      Started server process [16252]
INFO:      Waiting for application startup.
INFO:      Application startup complete.
INFO:      Uvicorn running on http://127.0.0.1:8000 (Press CTRL+C to quit)
```

← → C   ⓘ 127.0.0.1:8000

{"Message":"Welcome to credit card defaulter prediction"}

Prediction Page

The link can be diverted to the Swagger UI by typing "/docs" at the end of the link

Credit Card Defaulter Predictor 0.1.0 OAS3

/openapi.json

Credit Card Default prediction API helps you to determine who will default in their credit card payments.

Items

You can **predict** credit card defaulters

Users

Just enter the fields below in the predict tab to make predictions

All values are to be input as integers

LIMIT_BAL: Amount of given credit in NT dollars

SEX: Gender (1 = Male, 2 = Female)

EDUCATION: (1 = Graduate School, 2 = University, 3 = High school, 4 = Others)

MARRIAGE: Marital status (1 = Married, 2 = Single, 3 = Others)

PAY_1: Repayment status in September (-1= pay duly, 1= Payment delay for one month, 2= Payment delay for two months, 3= Payment delay for three months, 4= Payment delay for four months, … 8= Payment delay for eight months, 9= Payment delay for nine months and above)

PAY_2: Repayment status in August (same scale as above)

PAY_3: Repayment status in July (same scale as above)

PAY_4: Repayment status in June (same scale as above)

PAY_5: Repayment status in May (same scale as above)

PAY_6: Repayment status in April (same scale as above)

Total bill amount : Total amount on bill for 6 months

Total paid amount : Total amount paid in 6 months

default ^

| GET | / | Index | ∨ |

| GET | /{name} | Get Name | ∨ |

| POST | /predict | Predict Defaulter | ∨ |

The user can start the prediction by selecting the predict pane and can input values so that the model can classify the customer as a defaulter or not

POST /predict Predict Defaulter   ∧

Parameters   Try it out

No parameters

Request body required   application/json   ∨

Example Value | Schema

```
{
    "limit_bal": 0,
    "sex": 0,
    "education": 0,
    "marriage": 0,
    "age": 0,
    "pay_1": 0,
    "pay_2": 0,
    "pay_3": 0,
    "pay_4": 0,
    "pay_5": 0,
    "pay_6": 0,
    "total_bill_amount": 0,
    "total_pay_amount": 0
}
```

The values can be entered to the model by pressing on the "Try it out" button

Request body required   application/json   ∨

```
{
    "limit_bal": 50000,
    "sex": 2,
    "education": 2,
    "marriage": 1,
    "age": 37,
    "pay_1": 0,
    "pay_2": 0,
    "pay_3": 0,
    "pay_4": 0,
    "pay_5": 0,
    "pay_6": 0,
    "total_bill_amount": 231334,
    "total_pay_amount": 8388
}
```

Execute

After pressing the "Execute" button, the model outputs the prediction below, and it can be seen that the customer is not a defaulter

Responses

Curl

```
curl -X 'POST' \
  'http://127.0.0.1:8000/predict' \
  -H 'accept: application/json' \
  -H 'Content-Type: application/json' \
  -d '{
  "limit_bal": 50000,
  "sex": 2,
  "education": 2,
  "marriage": 1,
  "age": 37,
  "pay_1": 0,
  "pay_2": 0,
  "pay_3": 0,
  "pay_4": 0,
  "pay_5": 0,
  "pay_6": 0,
  "total_bill_amount": 231334,
  "total_pay_amount": 8388
}'
```

Request URL

```
http://127.0.0.1:8000/predict
```

Server response

Code	Details
200	Response body

```
{
  "prediction": "Not defaulter"
}
```

Download

The model can be used to make predictions again by re–entering the relevant values as seen below

POST /predict Predict Defaulter

Parameters   Cancel   Reset

No parameters

Request body required   application/json ⌄

```
{
  "limit_bal": 120000,
  "sex": 2,
  "education": 2,
  "marriage": 2,
  "age": 26,
  "pay_1": -1,
  "pay_2": 2,
  "pay_3": 0,
  "pay_4": 0,
  "pay_5": 0,
  "pay_6": 2,
  "total_bill_amount": 17077,
  "total_pay_amount": 5000
}
```

Execute

The model again outputs the prediction and it can be seen that the customer is a defaulter.

Curl

```
curl -X 'POST' \
  'http://127.0.0.1:8000/predict' \
  -H 'accept: application/json' \
  -H 'Content-Type: application/json' \
  -d '{
  "limit_bal": 120000,
  "sex": 2,
  "education": 2,
  "marriage": 1,
  "age": 26,
  "pay_1": -1,
  "pay_2": 2,
  "pay_3": 0,
  "pay_4": 0,
  "pay_5": 0,
  "pay_6": 2,
  "total_bill_amount": 17077,
  "total_paid_amount": 5000
}'
```

Request URL

```
http://127.0.0.1:8000/predict
```

Server response

Code	Details
200	Response body

```
{
  "prediction": "Defaulter"
}
```

Download