Deployment on Flask

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Model

```
import pandas as pd
import pickle
from sklearn.model_selection import train_test_split
from sklearn.preprocessing import LabelEncoder
from sklearn.svm import SVC

fish_set = pd.read_csv('Fish.csv')

x = fish_set[["Weight","Length1","Length2","Length3","Height","Width"]]
y = fish_set["Species"]

label = LabelEncoder()
y = label.fit_transform(y)

x_train, x_test, y_train, y_test = train_test_split(x,y,test_size=0.3,random_state=58)

sv = SVC(kernel = "linear").fit(x_train,y_train)

pickle.dump(sv,open('model.pkl','wb'))
```

app.py:

```python
import numpy as np
from flask import Flask, request, render_template
import pickle
import pandas as pd

app = Flask(__name__)
model = pickle.load(open('model.pkl','rb'))
fish_set = pd.read_csv('Fish.csv')
fish_category = list(dict.fromkeys(fish_set["Species"]))

@app.route('/')
def hello_world():  # put application's code here
    return render_template("index.html")

@app.route('/predict', methods = ['POST'])
def predict():
    int_features = [int(x) for x in request.form.values()]
    final_features = [np.array(int_features)]
    prediction = model.predict(final_features)
    return render_template('index.html', prediction_text=' fish is '+ fish_category[prediction[0]])


if __name__ == '__main__':
    app.run()
```

Index.html

```html
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <title>ML API</title>
  <link href='https://fonts.googleapis.com/css?family=Pacifico' rel='stylesheet' type='text/css'>
    <link href='https://fonts.googleapis.com/css?family=Arimo' rel='stylesheet' type='text/css'>
    <link href='https://fonts.googleapis.com/css?family=Hind:300' rel='stylesheet' type='text/css'>
    <link href='https://fonts.googleapis.com/css?family=Open+Sans+Condensed:300' rel='stylesheet' type='text/css'>
    <link rel="stylesheet" href="{{ url_for('static', filename='css/style.css') }}">
</head>
<body>
 <div class="login">
    <h1>Predict Fish</h1>

    <!-- Main Input For Receiving Query to our ML -->
    <form action="{{ url_for('predict')}}"method="post">
        <input type="text" name="weight" placeholder="Weight" required="required" />
        <input type="text" name="length1" placeholder="vertical length in cm" required="required" />
        <input type="text" name="length2" placeholder="diagonal length in cm" required="required" />
        <input type="text" name="length3" placeholder="cross length in cm" required="required" />
        <input type="text" name="height" placeholder="height in cm" required="required" />
        <input type="text" name="width" placeholder="width in cm" required="required" />

        <button type="submit" class="btn btn-primary btn-block btn-large">Predict</button>
    </form>

   <br>
   <br>
     {{ prediction_text }}
 </div>

</body>
</html>
```

Final

Predict Fish

500	28	31	36	14	4	Predict

fish is Bream