

\* NAME: BURAK GÜRHAN  
\* SUBMISSION DATE: 05/09/2024  
\* BATCH CODE:

```
import joblib
import pandas as pd
from fastapi import FastAPI
from pydantic import BaseModel
from typing import List, Optional
```

```
model =
joblib.load("random_forest_model.joblib")
```

```
class InputData(BaseModel):
    age: int
    bmi: int
    children: Optional[int] = None
```

```
app = FastAPI()
```

```
@app.post("/predict")
def predict(input_data: InputData):
    # data =
pd.DataFrame(input_data.dict(), index=[0])
```

```
prediction = model.predict(data)[0]
```

```
return {"prediction": prediction}
```

```
if __name__ == "__main__":
    app.run(debug=True)
```

```
File Edit Selection View Go Run Terminal Help Search [Administrator]
app.py
C:\Users\Administrator\Desktop > DG Week-6 > app.py > ...
1 import joblib
2 import pandas as pd
3 from fastapi import FastAPI
4 from pydantic import BaseModel
5 from typing import List, Optional
6
7
8 model = joblib.load("random_forest_model.joblib")
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27     app.run(debug=True)
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PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS fastapi

C:\Users\Administrator\AppData\Local\Programs\Python\Python312\Lib\site-packages\sklearn\base.py:376: InconsistentVersionWarning: Trying to unpickle estimator RandomForestRegressor from version 1.3.2 when using version 1.5.1. This might lead to breaking code or invalid results. Use at your own risk. For more info please refer to: [https://scikit-learn.org/stable/model\\_persistence.html#security-maintainability-limitations](https://scikit-learn.org/stable/model_persistence.html#security-maintainability-limitations)

warnings.warn(

INFO: Started server process [4688]

INFO: Waiting for application startup.

INFO: Application startup complete.

INFO: 127.0.0.1:55379 - "GET /docs HTTP/1.1" 200 OK

INFO: 127.0.0.1:55379 - "GET /openapi.json HTTP/1.1" 200 OK

INFO: 127.0.0.1:55385 - "GET / HTTP/1.1" 404 Not Found

INFO: 127.0.0.1:55385 - "GET /favicon.ico HTTP/1.1" 404 Not Found

INFO: 127.0.0.1:55437 - "GET /openapi.json HTTP/1.1" 200 OK

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```
df = df[["age", "bmi", "children", "charges"]]

X = df.drop("charges", axis=1)
y = df["charges"]

X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2, random_state=42)

rndm_cv = RandomizedSearchCV(RandomForestRegressor(), param_distributions={"n_estimators": np.arange(100,500,100),
                                                                           "max_depth": np.arange(2,10,2)},
                             cv=3).fit(X_train, y_train)

print("Best params", rndm_cv.best_params_)
print("Best score", rndm_cv.best_score_)
model = rndm_cv.best_estimator_

Best params {'n_estimators': 100, 'max_depth': 2}
Best score 0.06362926350077976

import joblib

joblib.dump(model, 'random_forest_model.joblib')

['random_forest_model.joblib']
```

## Bulut Sunucuları (1) [Bilgi](#)

Tüm durum... ▼

Bulut sunucusu durumu = running X

Filtreleri temizle

<input type="checkbox"/>	Name	Bulut sunucusu kimliği	Bulut sunucusu...	Bulut sunucusu...	Durum kontrolü	Alarm durumu
<input type="checkbox"/>	grhtradealıcı v...	I-06027ec7a63bf85c1	✓ Çalışıyor	t2.micro	✓ 2/2 kontrol geçti.	<a href="#">Alarmları görüntü</a>

## FastAPI 0.1.0 OAS 3.1

/openapi.json

### default

POST /predict Predict

#### Schemas

HTTPValidationError > Expand all object

InputData > Expand all object

ValidationError > Expand all object

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