**GEREKLİ KOD**

import pickle

import pandas as pd

# 1. Modeli ve özellik isimlerini yükle

with open("asthma\_model.pkl", "rb") as f:

model = pickle.load(f)

with open("feature\_names.pkl", "rb") as f:

feature\_names = pickle.load(f)

# 2. Kullanıcıdan gelen örnek veriler (web arayüzünden alınacak)

user\_input = {

'Age': 27,

'BMI': 22.5,

'DustExposure': 3,

'PollutionExposure': 4,

'DietQuality': 2,

'PhysicalActivity': 3,

'SleepQuality': 2,

'PollenExposure': 3,

'LungFunctionFEV1': 88,

'LungFunctionFVC': 93,

# ... diğer tüm sütunlar burada olmalı

}

# 3. DataFrame’e çevir ve sıralamayı garanti altına al

df = pd.DataFrame([user\_input])[feature\_names]

# 4. Modelden astım olasılığını al

proba = model.predict\_proba(df)[0][1] # Sınıf 1 (astım) olasılığı

# 5. Threshold uygulayarak sınıf belirle

threshold = 0.15 # Belirlenen en iyi eşik değeri

if proba >= threshold:

result = "Astım riski var"

else:

result = "Astım riski düşük"

# 6. Sonucu yazdır veya web arayüze gönder

print(f"Astım olasılığı: %{proba \* 100:.1f}")

print("Karar:", result)

**LEJANT**

* **AgeGroup**: The age of the patients ranges from 5 to 80 years.
* 0: Age <= 18: Child
* 1: Age <= 35: YoungAdult
* 2: Age <= 55: Adult
* 3: Age <= 65: MiddleAged
* 4: Age >65 :Elder

**Lifestyle Factors**

* **BMIGroup**: Body Mass Index of the patients, ranging from 15 to 40.
* 0: BMI < 18.5: underweight
* 1: BMI < 25: normal
* 2: BMI < 30: overweight
* 3: BMI> 30: obese
* **PhysicalActivity**: Weekly physical activity in hours, 0-10.
* **DietQuality**: Diet quality score, ranging from 0 to 10.
* **SleepQuality**: Sleep quality score, ranging from 4 to 10.

**Environmental and Allergy Factors**

* **pd\_exposure(Dust+PollutionExposure)**: Exposure to pollution, score from 0 to 10.
* **PollenExposure**: Exposure to pollen, score from 0 to 10.
* **PetAllergy**: Pet allergy status, where 0:No and 1:Yes.
* **Medical History**
* **FamilyHistoryAsthma**: Family history of asthma, where 0 indicates No and 1 indicates Yes.
* **Eczema**: Presence of eczema, where 0:No and 1:Yes.
* **HayFever**: Presence of hay fever, where 0:No and 1:Yes.
* **GastroesophagealReflux**: Presence of gastroesophageal reflux, where 0 indicates No and 1 indicates Yes.

**Clinical Measurements**

* **LungFunctionFEV1**: Forced Expiratory Volume in 1 second (FEV1), ranging from 1.0 to 4.0 liters.
* **LungFunctionFVC**: Forced Vital Capacity (FVC), ranging from 1.5 to 6.0 liters.

**Symptoms**

* **Wheezing**: Presence of wheezing, where 0 indicates No and 1 indicates Yes.
* **NighttimeSymptoms**: Presence of nighttime symptoms, where 0 indicates No and 1 indicates Yes.
* **ExerciseInduced**: Presence of symptoms induced by exercise, where 0 indicates No and 1 indicates Yes.

**Diagnosis Information**

* **Diagnosis**: Diagnosis status for Asthma, where 0 indicates No and 1 indicates Yes.