Demo model deployment on Flask

Name : Mamadi Fofana : LISUM02

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Purpose: Deploy a toy model on Flask using serialization

Project Structure

This project has three parts:

model.py — This contains code for the machine learning model to predict breast cancer based on input data

app.py — This contains Flask APIs that receives input data details through GUI or API calls, computes the predicted value based on our model and returns it.

HTML/CSS — This contains the HTML template and CSS styling to allow user to enter input data detail and displays the predicted result.

Step1: Model building

To our demo, we use breast cancer dataset which is a binary classification dataset.

Data Set Information:

Features are computed from a digitized image of a fine needle aspirate (FNA) of a breast mass.
They describe characteristics of the cell nuclei present in the image.

Our aim is to make a binary classification (Diagnosis (1 = malignant, 0 = benign)) based on input features

A logistic linear regression model has been trained and evaluated

Step 2: Serialization of the model

After creation of the model, an instance of the class of the model has been serialized on the disk

Step 3: Deployment on Flask

We first deserialized the model previously serialized

Then we used an instance of that class to our prediction purposes

The application is hosted in a local web server and can be tested at address displayed in the run output (in my case http://127.0.0.1:5000/)

Step 4: Demo

A client written in HTLM and using forms component allow user to enter input data and get the result