

# WIREFRAME DOCUMENT

## MUSHROOM CLASSIFICATION

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Author: Akshay Pandurang Paunikar

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## Abstract

Mushrooms have been consumed since earliest history. The word Mushroom is derived from the French word for Fungi and Mold. Now-a-days, Mushroom are popular valuable food because they are low in calories, carbohydrate, Fat, sodium and also cholesterol free. Besides this, Mushroom provides important nutrients, including selenium, potassium, riboflavin, niacin, Vitamin D, proteins and fiber. All together with a long history as food source. Mushroom are important for their healing capacity and properties in traditional medicine. It has reported beneficial effects for health and treatment of some disease. Many nutraceutical properties are described in Mushroom like cancer and antitumor attributes. Mushroom act as antibacterial, immune system enhancer and cholesterol lowering Agent. Additionally, they are important source of bio-active compounds. This work is a machine learning model that classifies mushrooms into 2 classes: Poisonous and Edible depending on the features of the mushroom. During this machine learning implementation, we are going to see which features are important to predict whether a mushroom is poisonous or edible.

# 1. Web Interface

App Link: <https://mushroom-classification-ml-api.herokuapp.com/>

## 1.1 Home Page

When the user clicks on the app link given above, it will direct user to our home page which looks like below:

Mushroom Classification ML App

Find out if your Mushroom is "Poisonous" or "Edible"

Cap-Surface : 

Select

Bruises : 

Select

Gill-Spacing : 

Select

Gill-Size : 

Select

Gill-Color : 

Select

Stalk-Root : 

Select

Stalk-Surface-Above-Ring : 

Select

Stalk-Surface-Below-Ring : 

Select

Ring-Type : 

Select

Spore-Print-Color : 

Select

Population : 

Select

Habitat : 

Select

Submit

in

f

As you can see, there are total of 12 input fields (drop downs) you need to select based on the characteristics of the mushroom to find out if it's edible or poisonous. There is a "Submit" button which redirect you the results page which will tell if the mushroom is poisonous or edible.

Also, at the bottom of the page you will find links to my LinkedIn, Facebook, Instagram and GitHub accounts.

## 1.2 How to use?

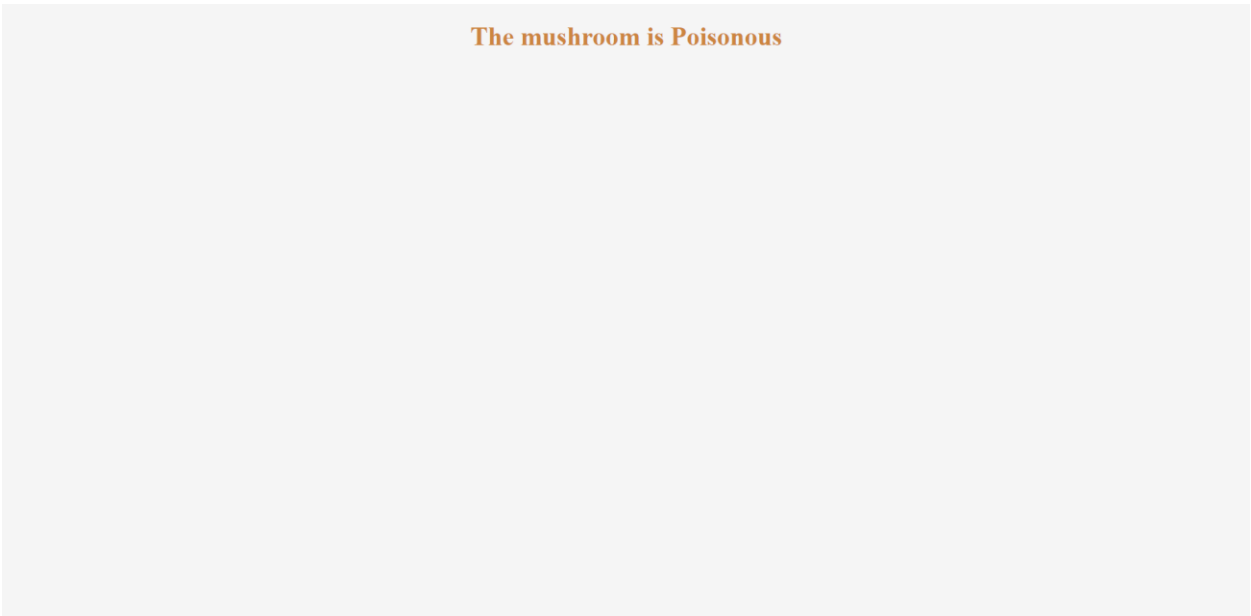
The image shows a web application interface for mushroom classification. At the top, there is an orange header with the text "Mushroom Classification ML App". Below this is a blue header with the text "Find out if your Mushroom is "Poisonous" or "Edible"". The main area is a red rectangle containing several input fields with dropdown menus. The fields are: "Cap-Surface" (Smooth - s), "Bruises" (Yes Bruises - t), "Gill-Spacing" (Close - c), "Gill-Size" (Broad - b), "Gill-Color" (White - w), "Stalk-Root" (Rooted - r), "Stalk-Surface-Above-Ring" (Fibrous - f), "Stalk-Surface-Below-Ring" (Fibrous - f), "Ring-Type" (Flaring - f), "Spore-Print-Color" (White - w), "Population" (Several - v), and "Habitat" (Grasses - g). Below these fields is a green "Submit" button. At the bottom of the red area is a blue footer with social media icons for LinkedIn, Facebook, Instagram, and GitHub.

As you can see in the above picture you need to select the characteristics of the mushroom using the drop downs provided for each input fields. For above example I have selected:

- Cap-Surface: Smooth – s
- Bruises: Yes Bruises – t
- Gill-Spacing: Close – c
- Gill-Size: Broad – b
- Gill-Color: White – w
- Stalk-Root: Rooted – r
- Stalk-Surface-Above-Ring: Fibrous – f
- Stalk-Surface-Below-Ring: Fibrous – f
- Ring-Type: Flaring – f
- Spore-Print-Color: White – w
- Population: Several – v
- Habitat: Grasses – g

After selecting all the input fields, you just need to click on “Submit” button and it will take you to the results page.

1.3 Results Page



The mushroom is Poisonous

As you can see that based on the inputs that are selected, the given mushroom is Poisonous.

2. Sample Cases:

Here I am going to show you the both outputs i.e., Poisonous and Edible using input fields.

2.1 Poisonous Mushroom Example

Mushroom Classification ML App

Find out if your Mushroom is "Poisonous" or "Edible"

Cap-Surface : Smooth - s

Bruises : Yes Bruises - t

Gill-Spacing : Close - c

Gill-Size : Broad - b

Gill-Color : White - w

Stalk-Root : Rooted - r

Stalk-Surface-Above-Ring : Fibrous - f

Stalk-Surface-Below-Ring : Fibrous - f

Ring-Type : Flaring - f

Spore-Print-Color : White - w

Population : Several - v

Habitat : Grasses - g

Submit

in f ig

The mushroom is Poisonous



2.2 Edible Mushroom Example

Mushroom Classification ML App

Find out if your Mushroom is "Poisonous" or "Edible"

Cap-Surface : Grooves - g

Bruises : No Bruises - f

Gill-Spacing : Crowded - w

Gill-Size : Broad - b

Gill-Color : Purple - u

Stalk-Root : Club - c

Stalk-Surface-Above-Ring : Smooth - s

Stalk-Surface-Below-Ring : Smooth - s

Ring-Type : Pendant - p

Spore-Print-Color : Purple - u

Population : Solitary - y

Habitat : Paths - p

Submit

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The mushroom is Edible