

WIREFRAME DOCUMENT

MUSHROOM CLASSIFICATION

AAKASH BHUTE

CONTENTS

S.NO	Description	Page No
	Abstract	3
1	Web Interface	4
1.1	Home Page	4
1.2	How to use it?	5
1.3	Results Page	6
2	Example Cases	7
2.1	Poisonous Mushroom Example	7
2.2	Edible Mushroom Example	8

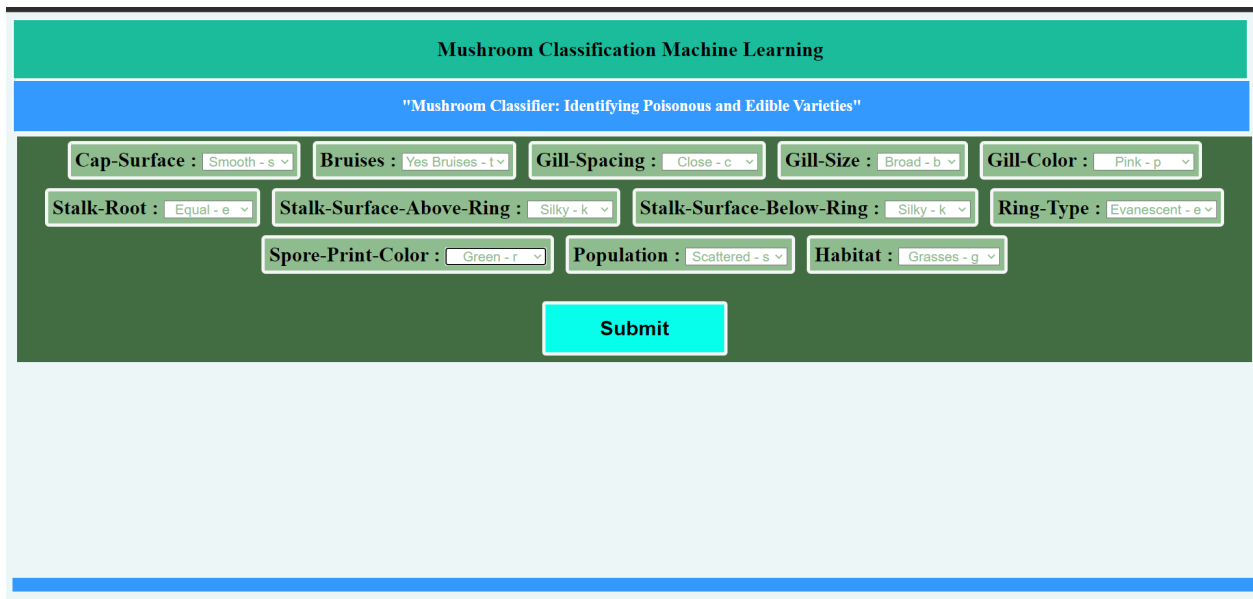
Abstract

This study focuses on the classification of mushrooms into two categories, namely Poisonous and Edible, using a machine learning model. It aims to determine the significant features that play a crucial role in predicting the edibility or toxicity of mushrooms. Mushrooms have been consumed since ancient times and are highly regarded for their nutritional value. They are low in calories, carbohydrates, fats, and sodium, while being cholesterol-free. Mushrooms offer essential nutrients such as selenium, potassium, riboflavin, niacin, Vitamin D, proteins, and fiber. They have a rich history as a food source and are also recognized for their healing properties in traditional medicine. Various health benefits and potential disease treatments have been associated with mushrooms, including their anticancer and antitumor properties. Moreover, mushrooms exhibit antibacterial effects, enhance the immune system, and assist in lowering cholesterol levels. Furthermore, mushrooms are a valuable source of bioactive compounds. Throughout this machine learning analysis, we will identify the key features that determine whether a mushroom is poisonous or edible.

1. Web Interface

1.1 Home Page

When the user taps on the app link, they will be redirected to our homepage, which is displayed as follows:



The screenshot displays a web interface for a "Mushroom Classification Machine Learning" application. The interface features a teal header with the title, followed by a blue sub-header stating "Mushroom Classifier: Identifying Poisonous and Edible Varieties". Below these headers is a green form area containing 12 dropdown menus for selecting mushroom characteristics. The characteristics and their current selections are: Cap-Surface (Smooth - s), Bruises (Yes Bruises - t), Gill-Spacing (Close - c), Gill-Size (Broad - b), Gill-Color (Pink - p), Stalk-Root (Equal - e), Stalk-Surface-Above-Ring (Silky - k), Stalk-Surface-Below-Ring (Silky - k), Ring-Type (Evanescent - e), Spore-Print-Color (Green - r), Population (Scattered - s), and Habitat (Grasses - g). A red "Submit" button is positioned at the bottom center of the form area. The entire interface is set against a light blue background.

In the provided interface, there are a total of 12 input fields (dropdown menus) that need to be selected based on the characteristics of the mushroom in order to determine if it is edible or poisonous. Once the selections are made, clicking the "Submit" button will redirect the user to the results page, which will indicate whether the mushroom is poisonous or edible.

1.2 How to use?

The screenshot shows a web application titled "Mushroom Classification Machine Learning" with a subtitle "Mushroom Classifier: Identifying Poisonous and Edible Varieties". The interface features a grid of dropdown menus for selecting mushroom characteristics. The selected values are: Cap-Surface: Smooth - s, Bruises: Yes Bruises - t, Gill-Spacing: Close - c, Gill-Size: Broad - b, Gill-Color: Pink - p, Stalk-Root: Equal - e, Stalk-Surface-Above-Ring: Silky - k, Stalk-Surface-Below-Ring: Silky - k, Ring-Type: Evanescent - e, Spore-Print-Color: Green - r, Population: Scattered - s, and Habitat: Grasses - g. A red "Submit" button is located at the bottom of the form.

Characteristic	Selected Value
Cap-Surface	Smooth - s
Bruises	Yes Bruises - t
Gill-Spacing	Close - c
Gill-Size	Broad - b
Gill-Color	Pink - p
Stalk-Root	Equal - e
Stalk-Surface-Above-Ring	Silky - k
Stalk-Surface-Below-Ring	Silky - k
Ring-Type	Evanescent - e
Spore-Print-Color	Green - r
Population	Scattered - s
Habitat	Grasses - g

In the given image, you can observe that the characteristics of the mushroom need to be selected using the provided dropdown menus for each input field. For the example mentioned, the following selections were made:

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

Once all the input fields have been selected, you simply need to click on the "Submit" button, which will lead you to the results page.

1.3 Results Page

Mushroom Classification Machine Learning

"Mushroom Classifier: Identifying Poisonous and Edible Varieties"

Cap-Surface :

Bruises :

Gill-Spacing :

Gill-Size :

Gill-Color :

Stalk-Root :

Stalk-Surface-Above-Ring :

Stalk-Surface-Below-Ring :

Ring-Type :

Spore-Print-Color :

Population :

Habitat :

Submit

The mushroom is Poisonous

Based on the selected inputs, it can be determined that the mushroom in question is classified as poisonous.

6

2. Example Cases:

Now I will demonstrate both outputs, namely Poisonous and Edible, using different input field selections.

2.1 Poisonous Mushroom Example

Mushroom Classification Machine Learning

"Mushroom Classifier: Identifying Poisonous and Edible Varieties"

Cap-Surface : Smooth - s

Bruises : Yes Bruises - t

Gill-Spacing : Close - c

Gill-Size : Broad - b

Gill-Color : Pink - p

Stalk-Root : Equal - e

Stalk-Surface-Above-Ring : Silky - k

Stalk-Surface-Below-Ring : Silky - k

Ring-Type : Evanescent - e

Spore-Print-Color : Green - r

Population : Scattered - s

Habitat : Grasses - g

Submit

Mushroom Classification Machine Learning

"Mushroom Classifier: Identifying Poisonous and Edible Varieties"

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

The mushroom is Poisonous

2.2 Edible Mushroom Example

Mushroom Classification Machine Learning

"Mushroom Classifier: Identifying Poisonous and Edible Varieties"

Cap-Surface : Scaly - y

Bruises : Yes Bruises - t

Gill-Spacing : Crowded - w

Gill-Size : Broad - b

Gill-Color : Purple - u

Stalk-Root : Club - c

Stalk-Surface-Above-Ring : Fibrous - f

Stalk-Surface-Below-Ring : Silky - k

Ring-Type : Large - l

Spore-Print-Color : Purple - u

Population : Numerous - n

Habitat : Leaves - l

Submit

Mushroom Classification Machine Learning

"Mushroom Classifier: Identifying Poisonous and Edible Varieties"

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

The mushroom is Edible

