

Laboratory Activities for Week 2: Basic Pandas II

SC310005 Artificial Intelligence
Khon Kaen Business School

(10 Points) the Mushroom Classification dataset

Introduction:

The Mushroom Classification dataset comprises categorical attributes of mushrooms, such as cap shape, cap color, odor, etc., and their classification as either edible or poisonous. The analysis aims to understand the distribution of different features, examine correlations between attributes, and derive meaningful insights to distinguish edible from poisonous mushrooms.

Data:

https://raw.githubusercontent.com/kaopanboonyuen/SC310005_ArtificialIntelligence_2023s1/main/dataset/mushrooms_dataset.csv



Q1	What are the first five rows of the dataset?
Q2	How many rows and columns are in the dataset?
Q3	What are the unique values in the 'cap-shape' column?
Q4	What is the distribution of classes in the 'class' column?
Q5	How many mushrooms are edible, and how many are poisonous?
Q6	What is the most common 'odor' for 'poisonous' mushrooms?
Q7	How many mushrooms have 'odor' as 'almond' and 'cap-color' as 'yellow'?
Q8	What is the most common 'stalk-root' for 'class' equal to 'e'?
Q9	How many missing values are there in each column?
Q10	What percentage of mushrooms have 'bruises'?
Bonus	What is the count of 'stalk-surface-above-ring' values for each 'class'?

Appendix:

Attribute Information: (classes: edible=e, poisonous=p)

cap-shape: bell=b,conical=c,convex=x,flat=f, knobbed=k,sunken=s

cap-surface: fibrous=f,grooves=g,scaly=y,smooth=s

cap-color:

brown=n,buff=b,cinnamon=c,gray=g,green=r,pink=p,purple=u,red=e,white=w,yellow=y

bruises: bruises=t,no=f

odor: almond=a,anise=l,creosote=c,fishy=y,foul=f,musty=m,none=n,pungent=p,spicy=s

gill-attachment: attached=a,descending=d,free=f,notched=n

gill-spacing: close=c,crowded=w,distant=d

gill-size: broad=b,narrow=n

gill-color: black=k,brown=n,buff=b,chocolate=h,gray=g,
green=r,orange=o,pink=p,purple=u,red=e,white=w,yellow=y

stalk-shape: enlarging=e,tapering=

stalk-root: bulbous=b,club=c,cup=u,equal=e,rhizomorphs=z,rooted=r,missing=?

stalk-surface-above-ring: fibrous=f,scaly=y,silky=k,smooth=s

stalk-surface-below-ring: fibrous=f,scaly=y,silky=k,smooth=s

stalk-color-above-ring:

brown=n,buff=b,cinnamon=c,gray=g,orange=o,pink=p,red=e,white=w,yellow=y

stalk-color-below-ring:

brown=n,buff=b,cinnamon=c,gray=g,orange=o,pink=p,red=e,white=w,yellow=y

veil-type: partial=p,universal=u

veil-color: brown=n,orange=o,white=w,yellow=y

ring-number: none=n,one=o,two=t

ring-type: cobwebby=c,evanescent=e,flaring=f,large=l,none=n,pendant=p,sheathing=s,zone=z

spore-print-color:

black=k,brown=n,buff=b,chocolate=h,green=r,orange=o,purple=u,white=w,yellow=y

population: abundant=a,clustered=c,numerous=n,scattered=s,several=v,solitary=y

habitat: grasses=g,leaves=l,meadows=m,paths=p,urban=u,waste=w,woods=d