

# Toxicity of Mushrooms

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Coding Dojo

September 7

# Business Problem

The residents of Fungopolis have developed a keen interest in gathering their own mushrooms. The city council has grown concerned that all of this amateur mushroom foraging will result in needless death. We have been tasked with constructing a machine learning model that will predict the toxicity of a mushroom based on certain characteristics of the mushroom.

# The Data

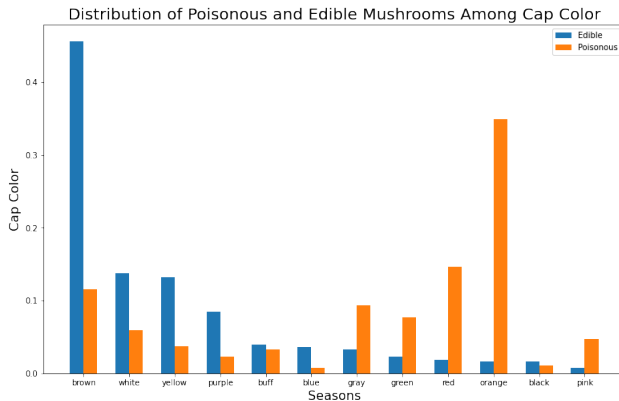
We used the “Secondary Mushroom Dataset” from the Machine Learning Repository at UCI. This is a synthetic data set with about 60,000 data points and 21 attributes. The following is a sample of the attributes included in the data set.

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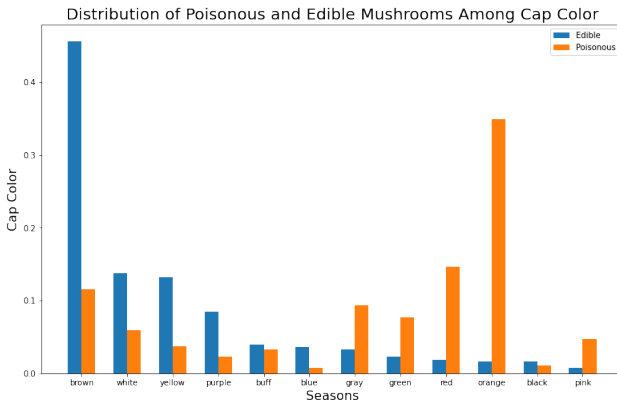
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- ▶ Cap color
- ▶ Cap diameter
- ▶ Cap shape
- ▶ Stem height
- ▶ Stem width

# Visualization 1

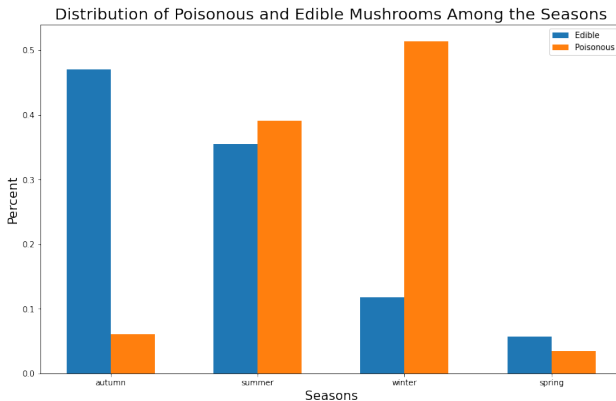


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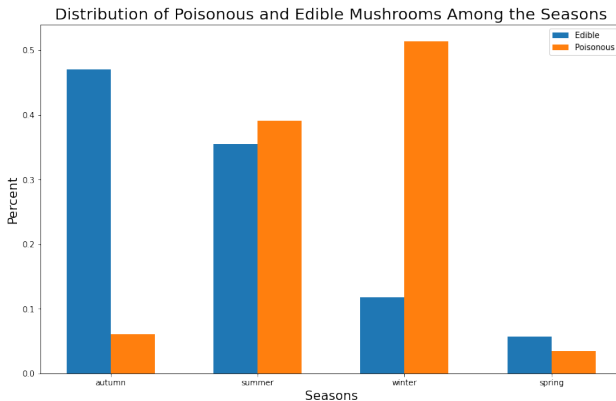


This graph shows that mushrooms with brown caps are more likely to be edible, while mushrooms with orange and brown caps tend to be poisonous.

## Visualization 2



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This graph shows that mushrooms that grow in autumn are more likely to be edible, while mushrooms that grow in winter are more likely to be poisonous.



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- ▶ High recall means fewer false negatives. A false negative in our model means incorrectly identifying a mushroom as edible.

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- ▶ Thanks for your time!