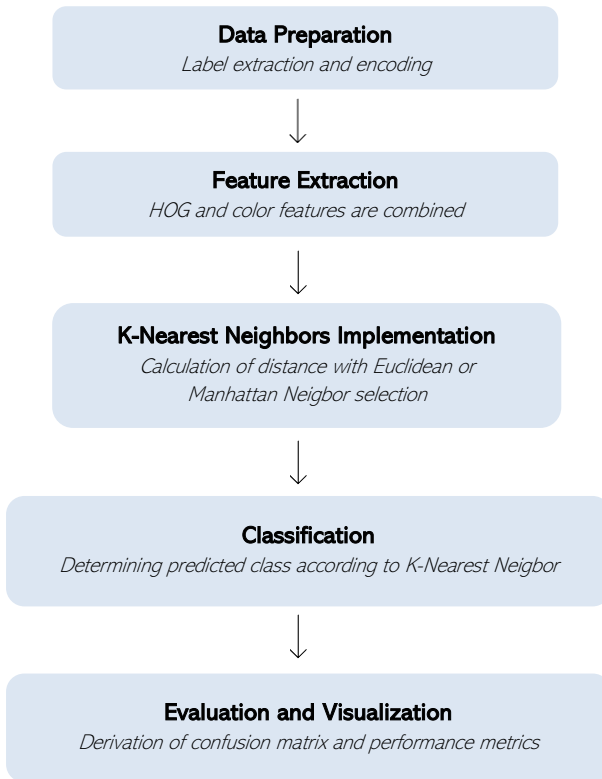


## K-Nearest Neighbor Based Image Classifier

The overall goal of this system is to demonstrate how image processing, feature extraction, and K-Nearest Neighbors can be used together to classify images based on their visual content. It's a form of machine learning applied to image classification that figures how to handle real-world data, process it into a usable form, apply ML algorithm, and evaluate its performance. Implementation was done with **Python3** and **Sklearn**, **NumPy**, **Matplotlib** etc. libraries were used.



Confusion Matrix

	Ball	Bowl	Fork	Laptop	Mug	Orange	Plate	Salat	Tin Can	Tomato
Ball	5	0	0	0	0	3	1	0	0	1
Bowl	2	4	0	0	0	2	1	0	1	0
Fork	1	0	7	0	0	0	0	1	0	1
Laptop	0	1	0	3	0	1	1	0	0	4
Mug	3	0	0	0	3	3	0	0	0	1
Orange	1	0	0	0	0	8	0	0	0	1
Plate	0	0	0	0	0	3	7	0	0	0
Salat	0	0	0	0	0	3	0	7	0	0
Tin Can	1	0	1	1	0	2	1	1	2	1
Tomato	0	0	0	0	0	7	0	1	0	2
	Ball	Bowl	Fork	Laptop	Mug	Orange	Plate	Salat	Tin Can	Tomato

In this implementation, features are insufficient to determine whether the object is a tomato, a ball or orange. New features should be added to ensure that objects can be distinguished efficiently.