

# PyCake

DSN 2098

Guided  
By  
Mr. Kailash

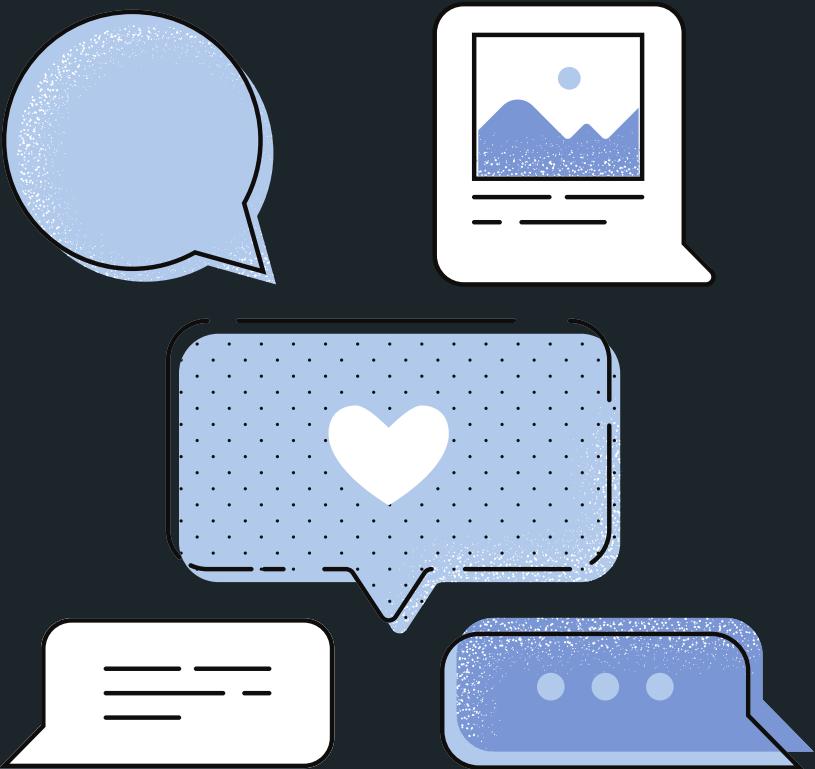
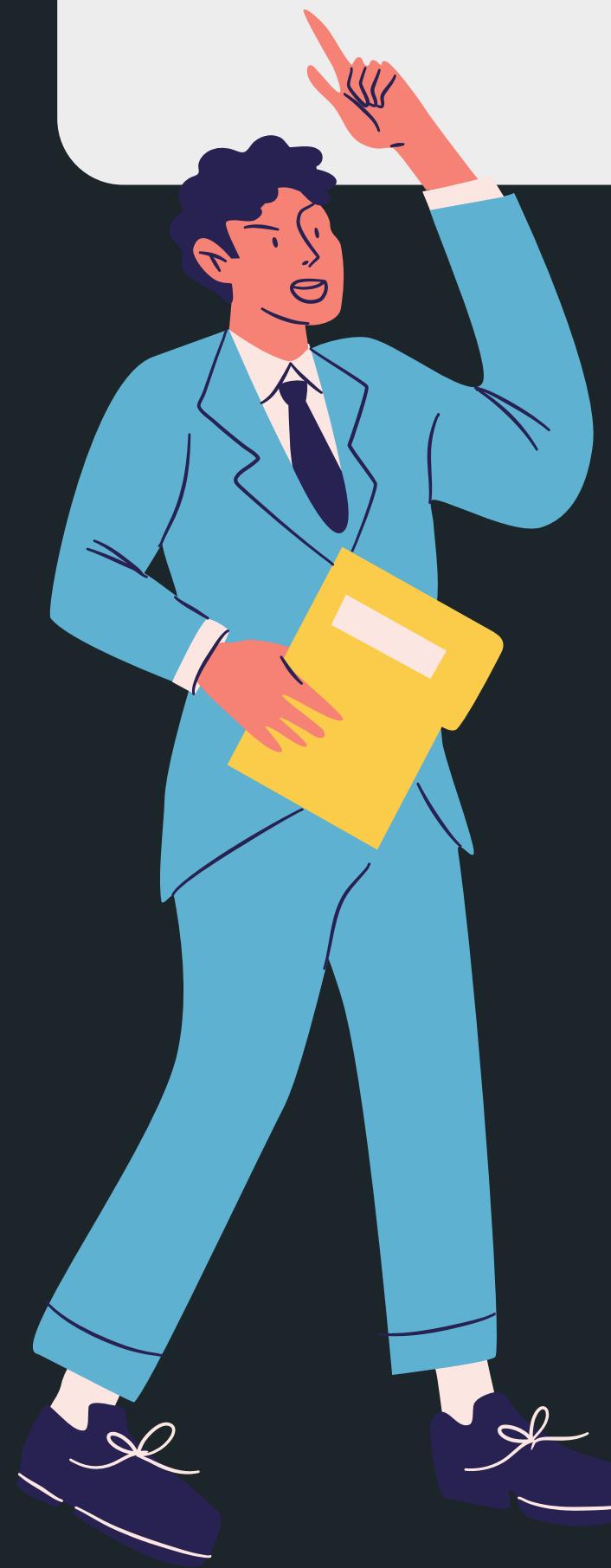


## Group Members

1. Parmeet Singh Banwait - 20BAI10141
2. MVN Rajesh Reddy - 20BAI10249
3. Sparsh Handa - 20BAI10295
4. Mohd Mohsin Khan - 20BAI10340

# Objective:-

How to add watermark on  
images using OpenCV in  
Python.



# Roadmap



What are  
watermarks?

Existing  
solution

Proposed  
solution

Conclusion



LET'S

# what are Watermarks?

# What are Watermarks?

Watermarking is the process of superimposing a logo or piece of text atop a document or image file.

It's an important process when it comes to both the copyright protection and marketing of digital works.

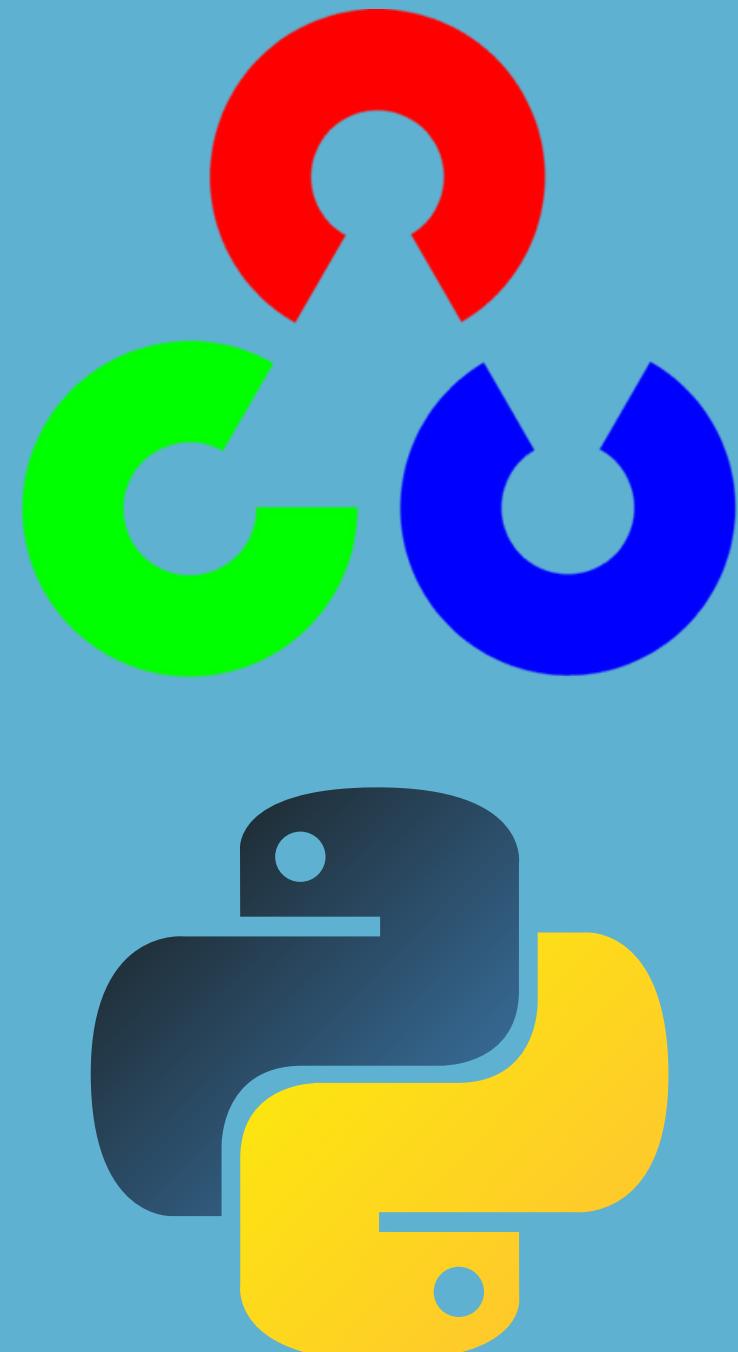
We will look at a few reasons why watermarking images and documents is important and explore how to create a watermark that's effective for our work.

## EXAMPLE



# Python - Open CV

- OpenCV is a huge open-source library for computer vision, machine learning, and image processing.
- It can process images and videos to identify objects, faces, or even the handwriting of a human.
- OpenCV is used for all sorts of image and video analysis, like facial recognition and detection, license plate reading, photo editing, advanced robotic vision, optical character recognition, and a whole lot more.





# Existing work





Copyright  
Protection



Owner  
identification



Content  
authentication



Proof of  
ownership

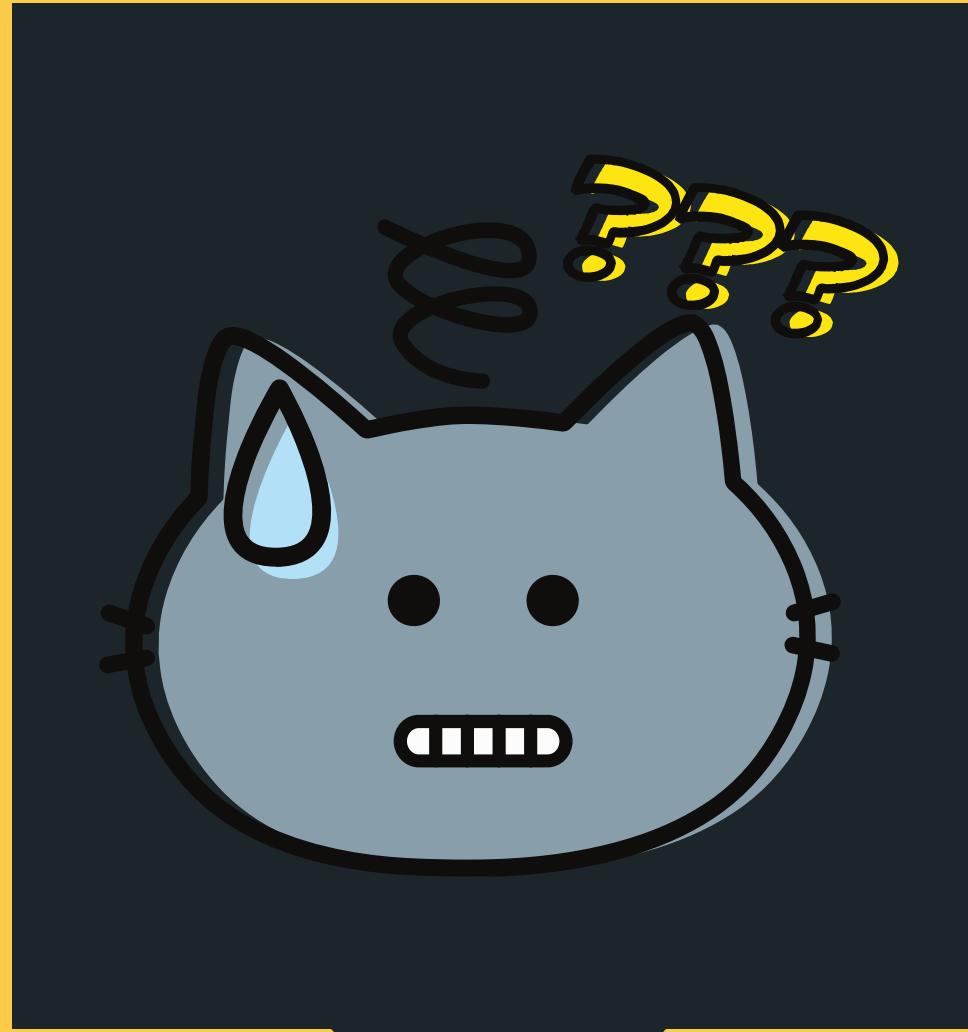


Image  
tempering  
detection



# Limitations

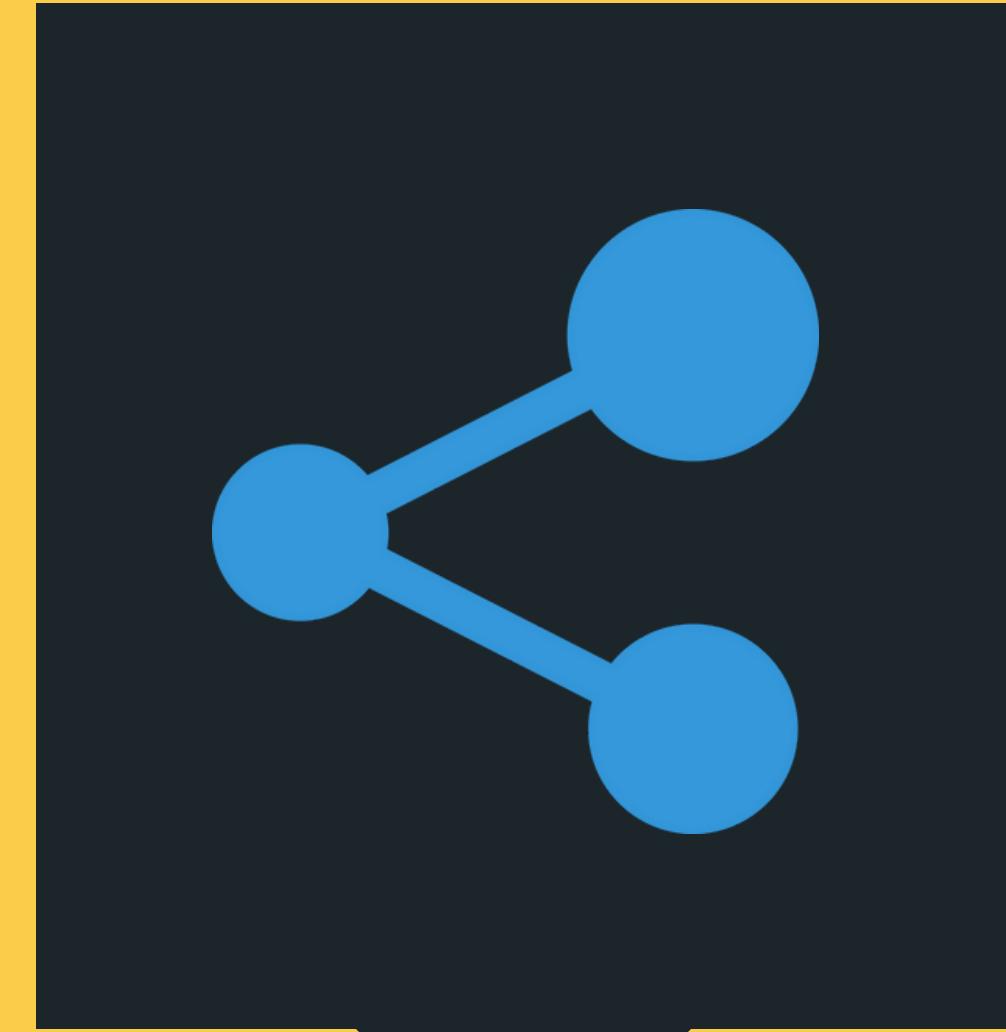




Obvious  
distraction



Not  
FoolProof



Reduces  
Social  
Sharing





Limited success for  
theft prevention



Watermarks vanishes  
if someone  
manipulates the image



It does not prevent  
image copying



# Promote Negative Image of you



- A distracting watermark gives the impression of a photographer more focused on saving his work than showing it.
- Large watermarks across a product photo may frustrate shoppers, as they can't see the product clearly without the distracting watermark over it.



# PROPOSED WORK AND METHODOLOGY

```
4+     if($result !== false) {
5+         $distrArray = array();
6+         $row = mysqli_fetch_assoc($result);
7+         $correctAnswer = $row['Correct'];
8+         $distrArray['A'] = $row['Anum'];
9+         $distrArray['B'] = $row['Bnum'];
10+        $distrArray['C'] = $row['Cnum'];
11+        $distrArray['D'] = $row['Dnum'];
12+        $distrArray['Correct'] = $correctAnswer;
13+        $distrArray['Answer'] = rtrim($row[$correctAnswer], ".");
14+        $distrArray['Query'] = "SELECT * FROM TechTerms WHERE Date='Sdate'";
15+        return $distrArray;
16+    } else {
17+        $distrArray['Error'] = 'Quiz load query failed';
18+        return $distrArray;
19+    }
20+}
```

# PyCake



What if we were  
able to  
automate the  
whole task?

Can the solution  
be easy and  
lightweight



# What is PyCake?



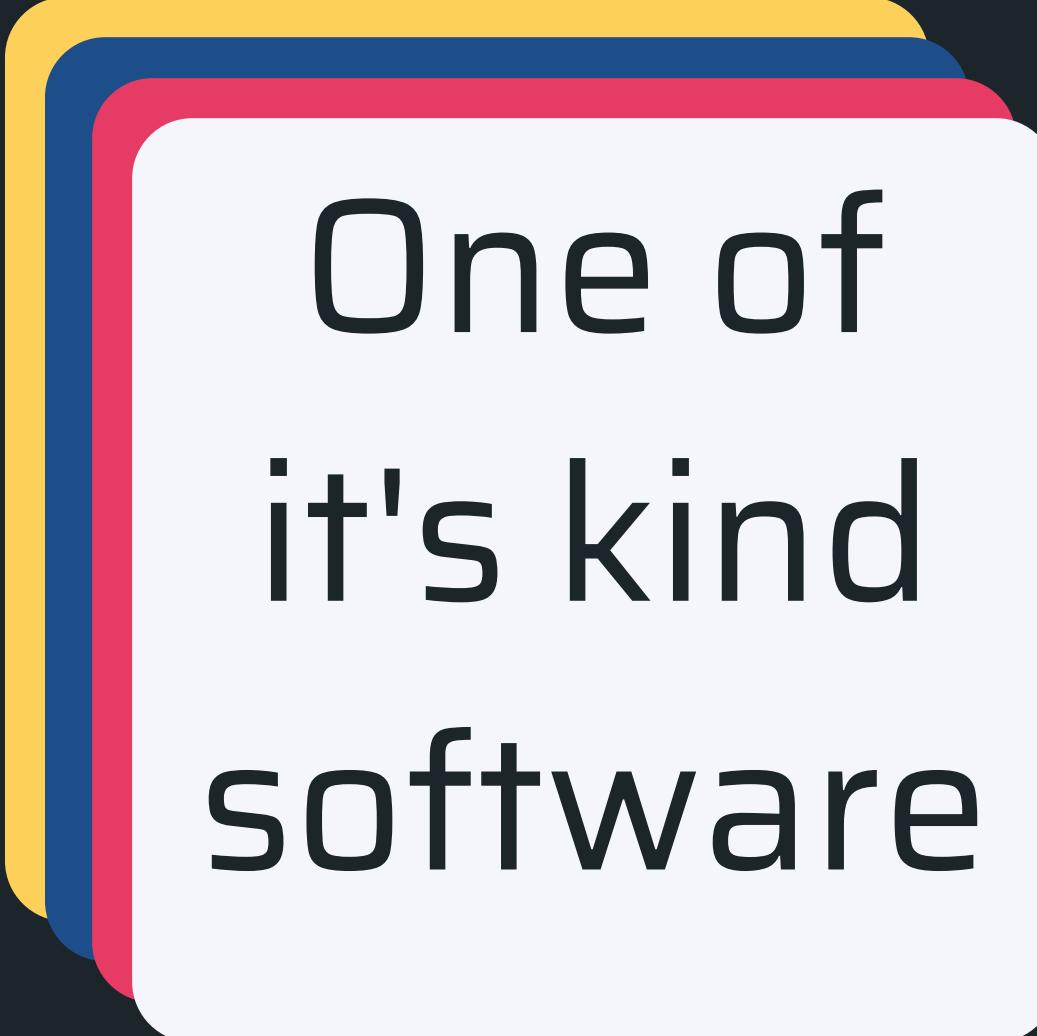
"PyCake is just the solution we all were looking for"

An easy to use python software

It simply automates the task of adding watermarks to an image.



# Novelty of the project



One of  
it's kind  
software



Not  
complex

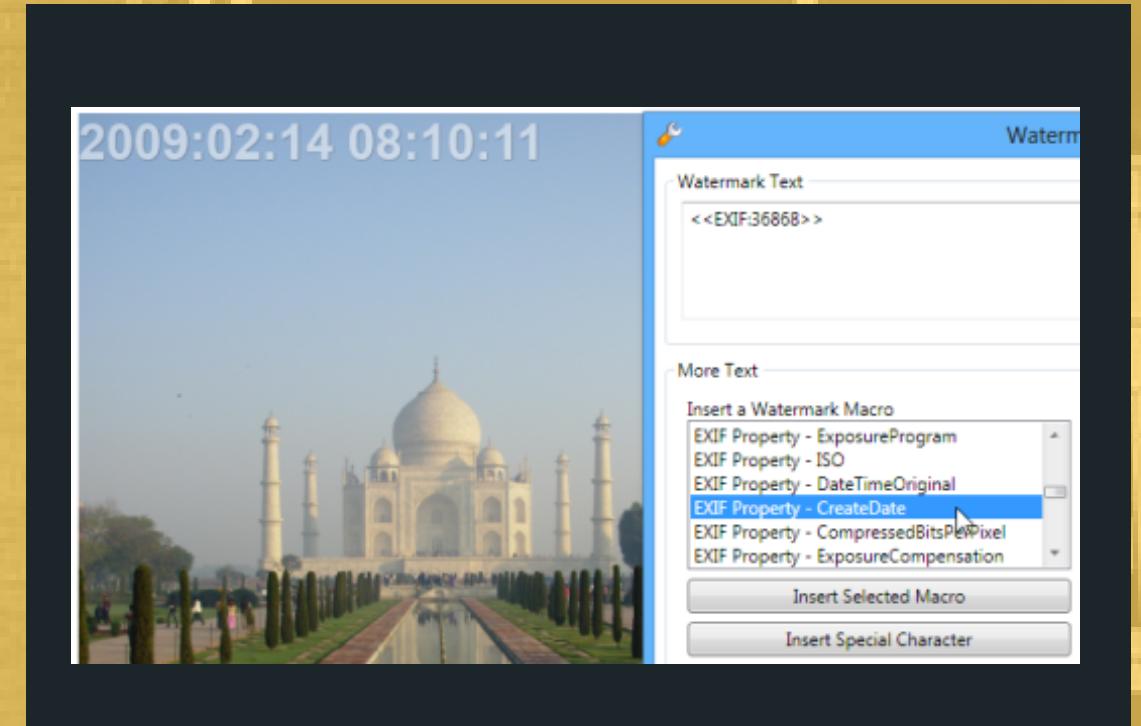
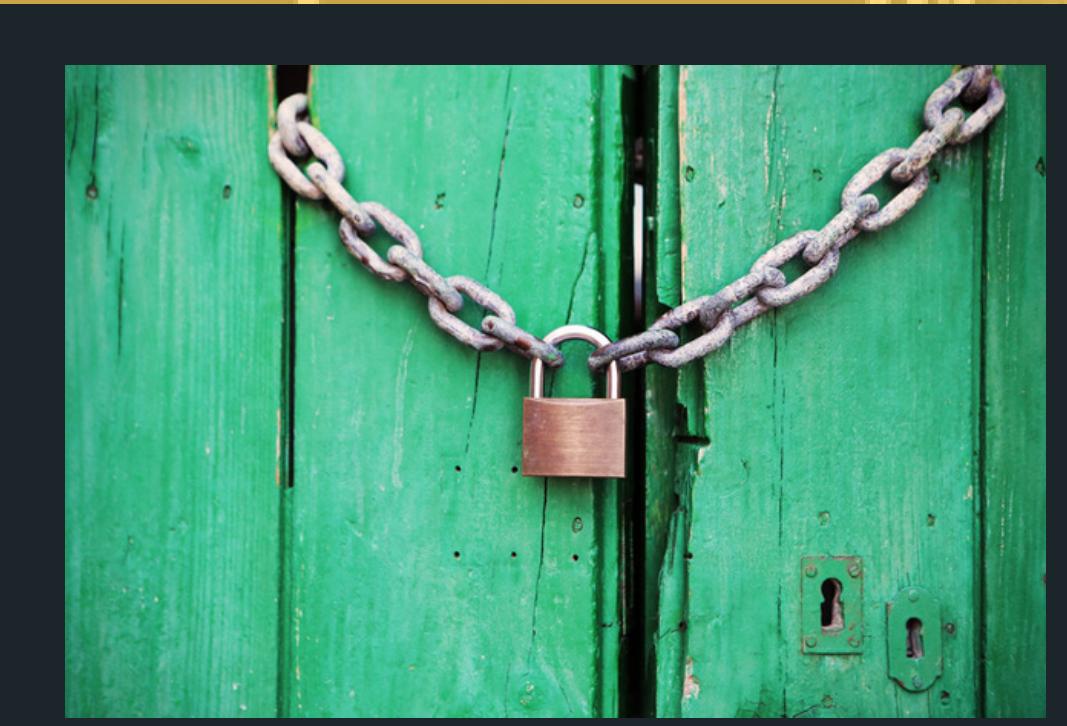


Easy To  
Use





# Real Time Usage



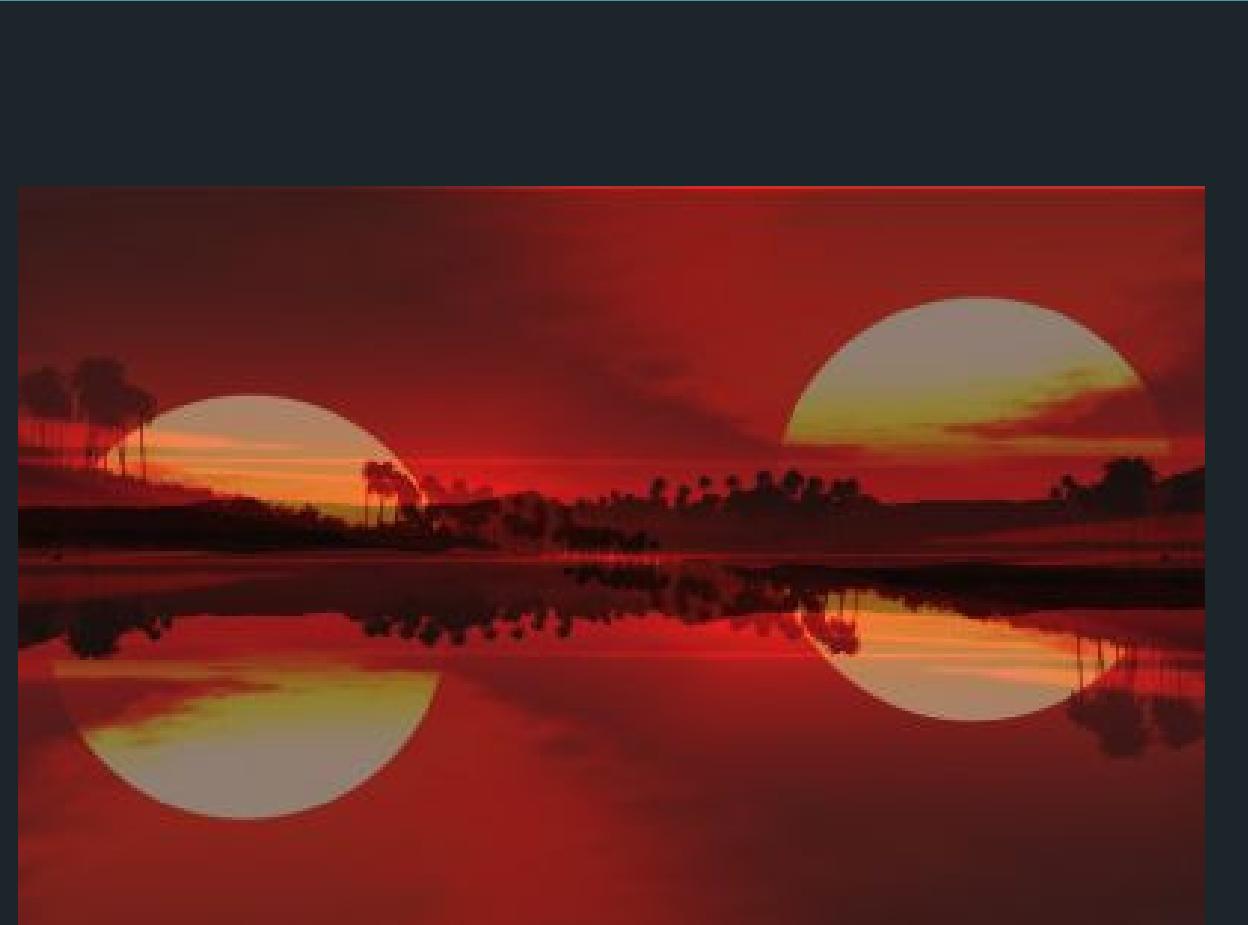
Protecting the  
photo

Add descriptive  
captions to photos

Give information  
about the photo



Make memes and  
comics



Mash photos together

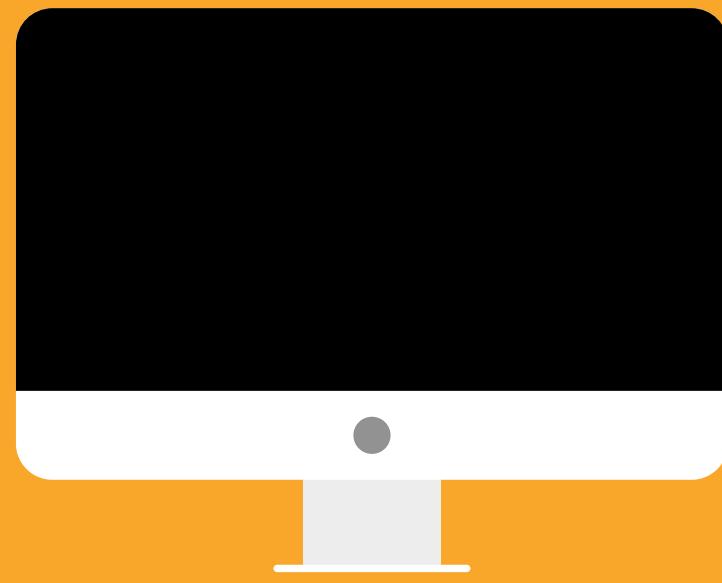


Show your  
creativity

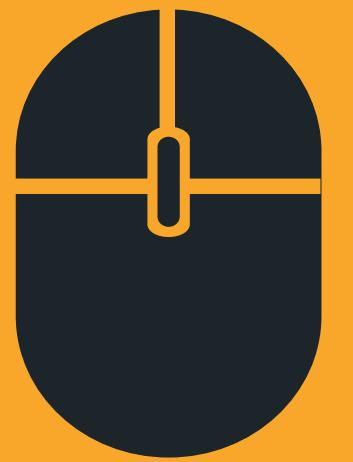


# Hardware and Software requirements

# Hardware requirements



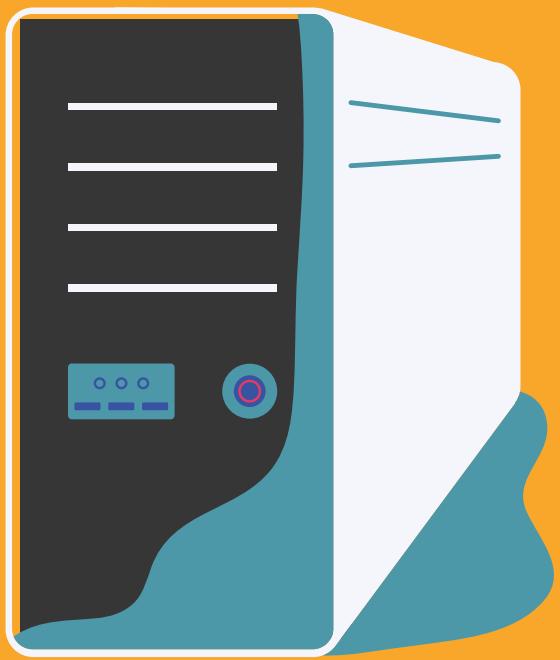
Monitor



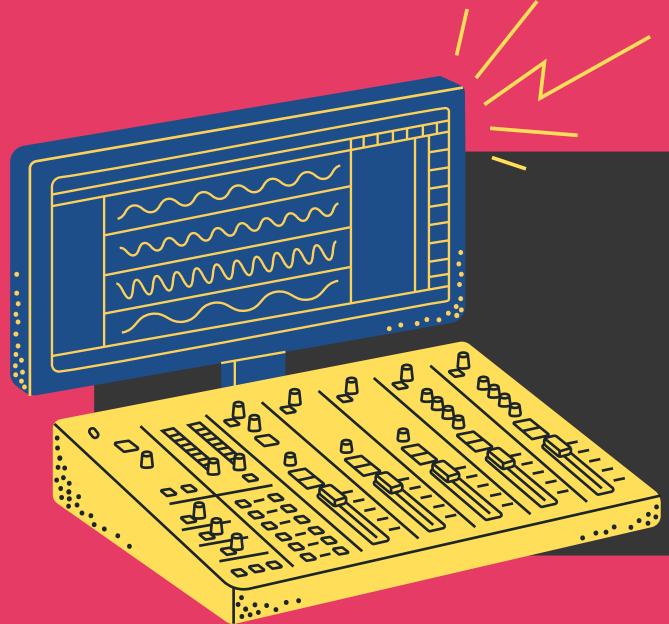
Mouse



Keyboard



CPU



# Software requirement



Langauge

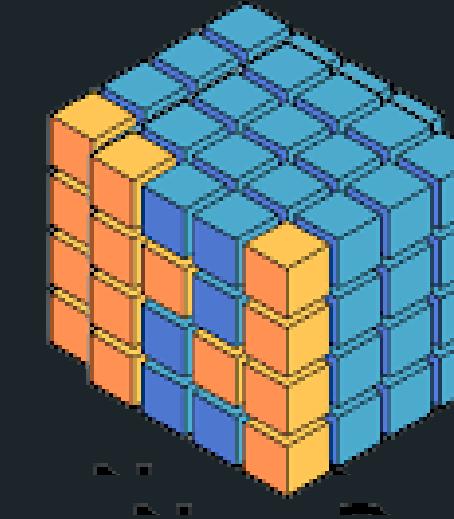


Python

Modules



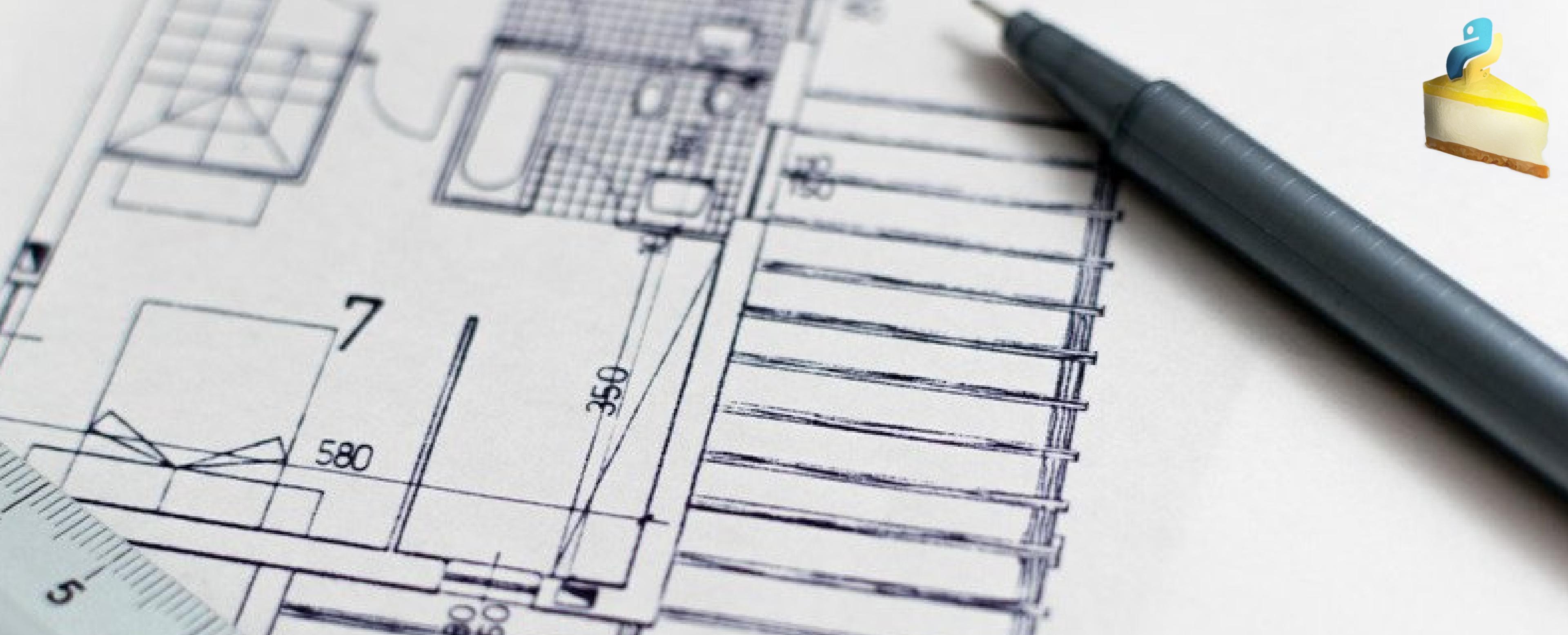
Open cv



Numpy



Tkinter



# Overall system architecture diagram

## Input

An image  
Watermark  
that we  
needed to  
add

## Processing

Scaling  
images  
Merging  
Creating  
Watermark

## Output

Image with  
watermark



# INPUT





# 1. An Image

User Inputs an Image  
on which watermark is  
to be added.

*Example:-*



## 2. Watermark Image

The watermark that we need to add will be given by the user in the form of an image or text.

*Example:-*

**PyCake**



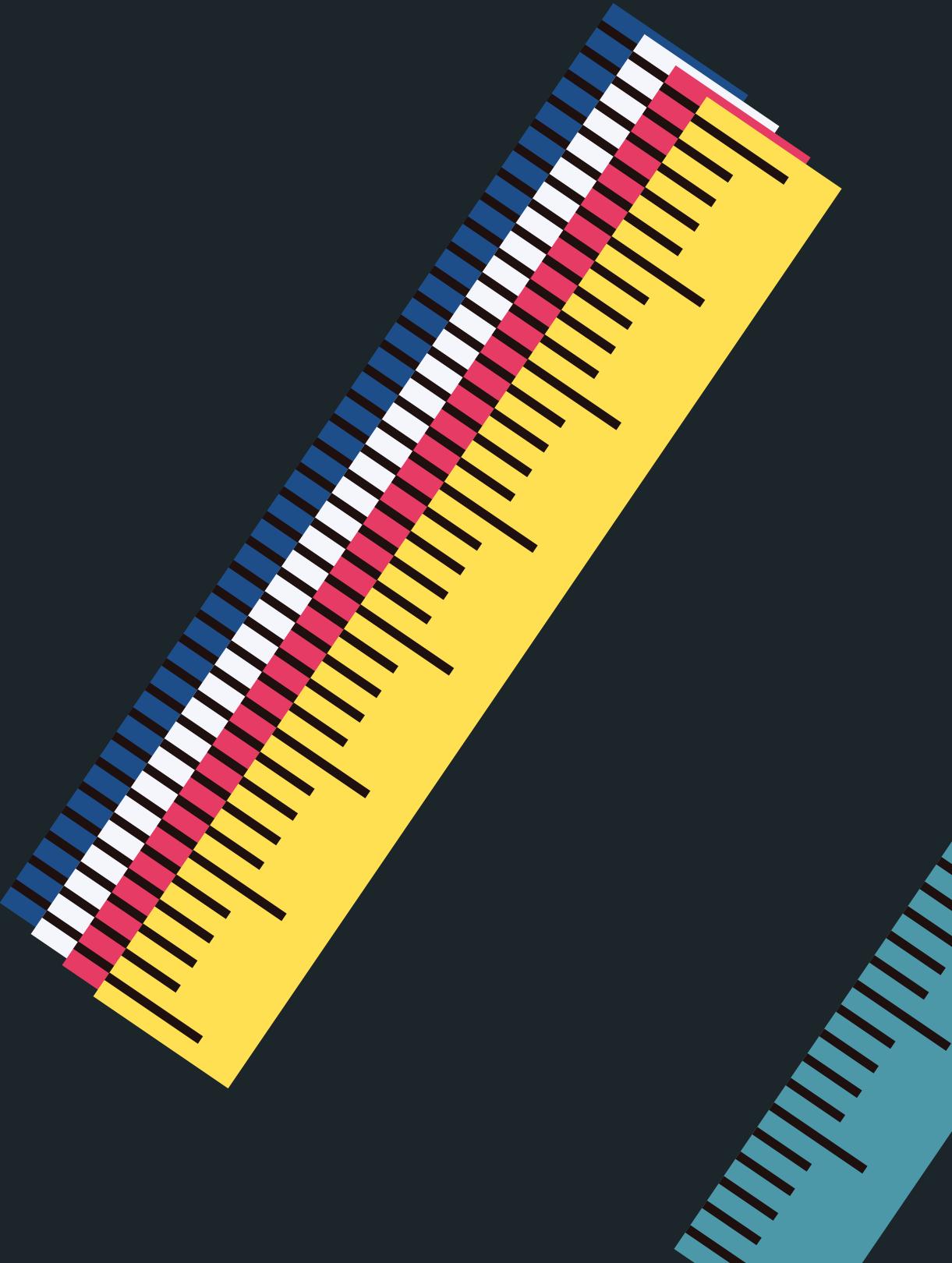
# PROCESSING





# Scaling images

The image is scaled and hence downsize an image for a particular resolution or we keep the image to its original resolution when required.



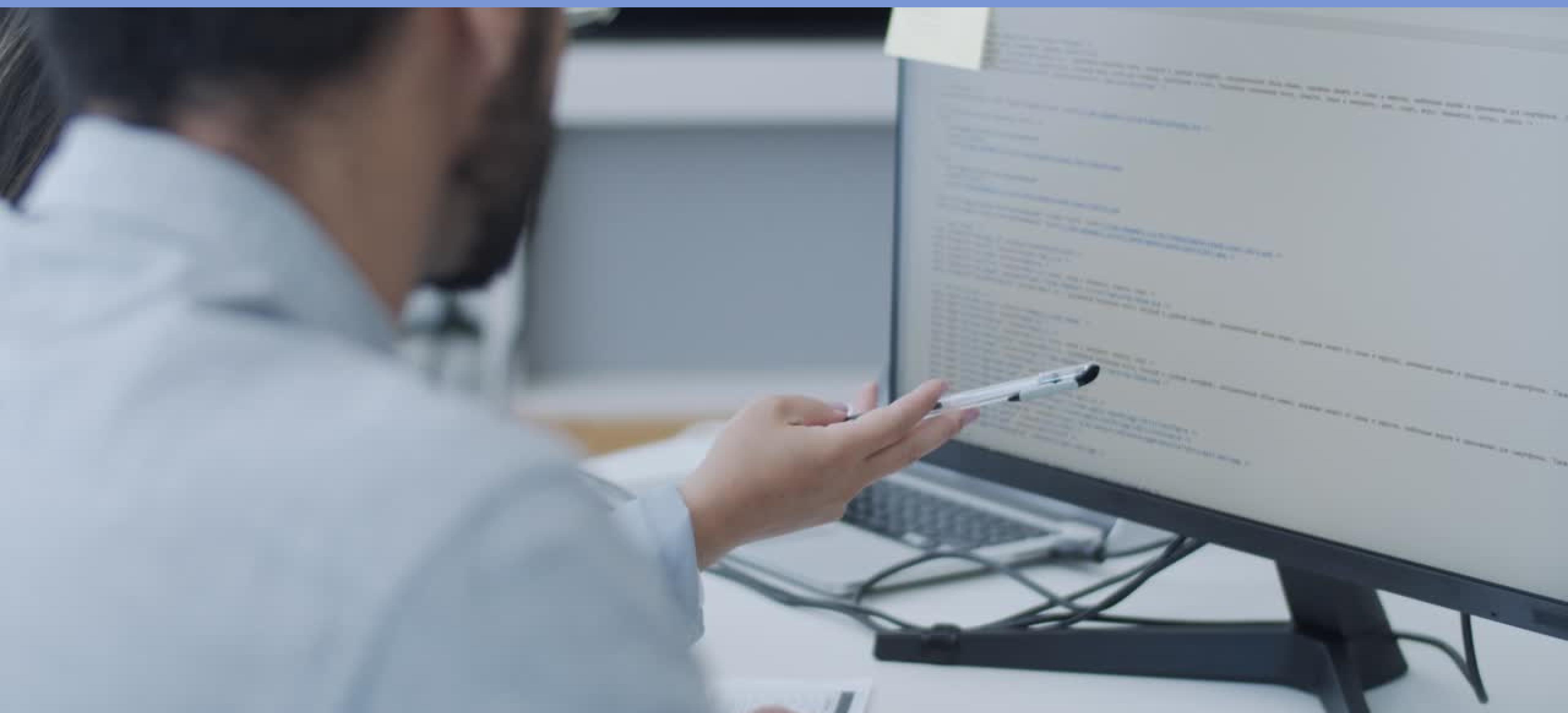


# Merging and Creating Watermark



The images provided by the user  
is then merged and the  
watermark is being created.

# OUTPUT



# Image with watermark



Here is what our final output will look like.

*Expected  
Outcome:*



# Conclusion





By using the above we can add any watermark to an image and also add a custom image to our image using OpenCV and Python together.

*thank  
you*



*Any Questions for us??*

