

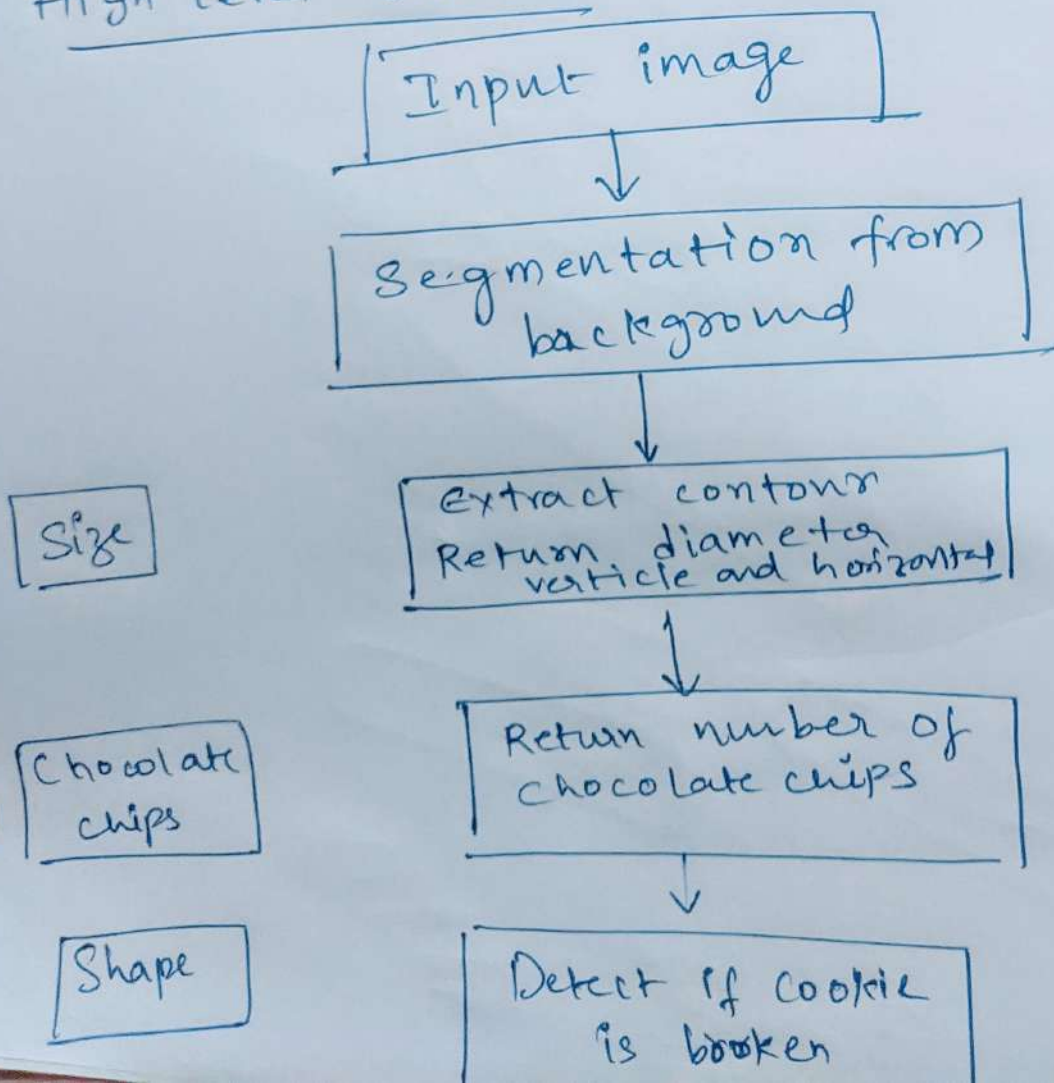
Chocolate Chip cookie - Visual Inspection.

Problem Description :

Visual inspection system which can identify

- Diameter of cookie (size)
↳ vertical and horizontal
- Number of chocolate chips (Blob detection)
- Damaged cookies, cracked or broken edges (Contour / Texture)
- Color of the cookie (Burnt cookies)
↳ Top 3 hex codes of color.

High Level Overview



Function names

def driver():

def orbit:

def num-choc():

def is-broken():

Color

↓
- Return if cookie
is burnt

def is_burnt():

Design Considerations:

Operations Perspective:-

- Constant light source.
- Constant height used to fracture diameter / Reference objects to be used
- Each image contains a single cookie.

Design Methodology:

- Based on the portability (outside fixed lighting conditions) we can export the same algorithms to deep learning.
- Usage of deep learning algorithms has its own disadvantages (high compute time)
- Instead ~~of~~ running openCV algos (the complex ones ex: contour morphology, wavelet transforms) on GPU would be very fast.

Risks and Volatile Areas:

- Out of distribution data (different baking procedure, ingredients used, different brand)

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