

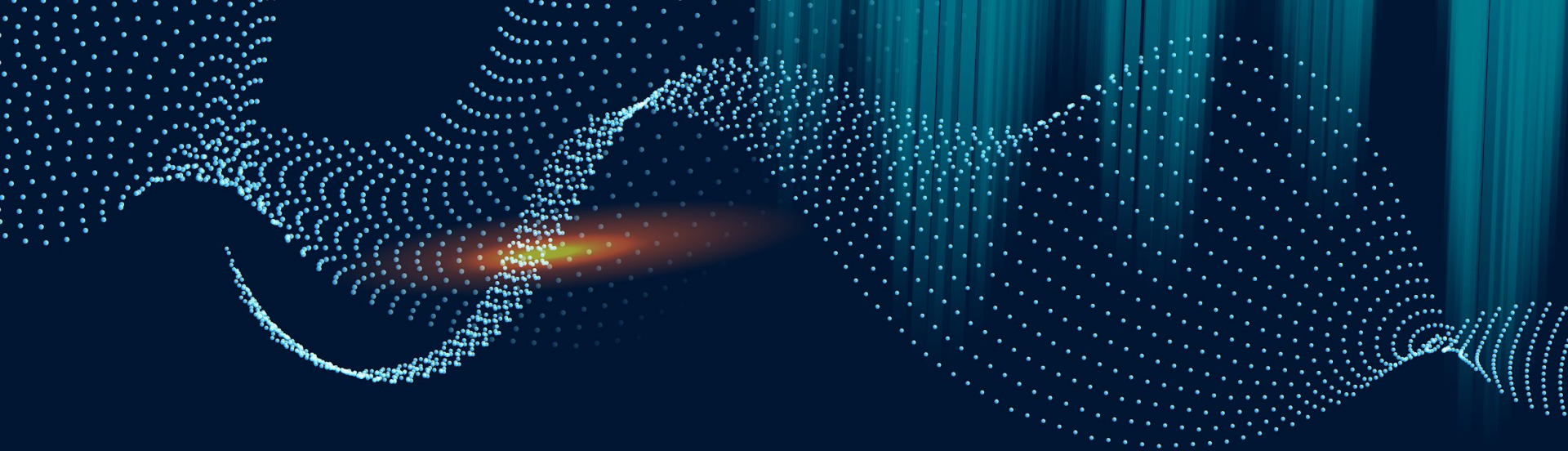
MY APPROACH

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THANKS!

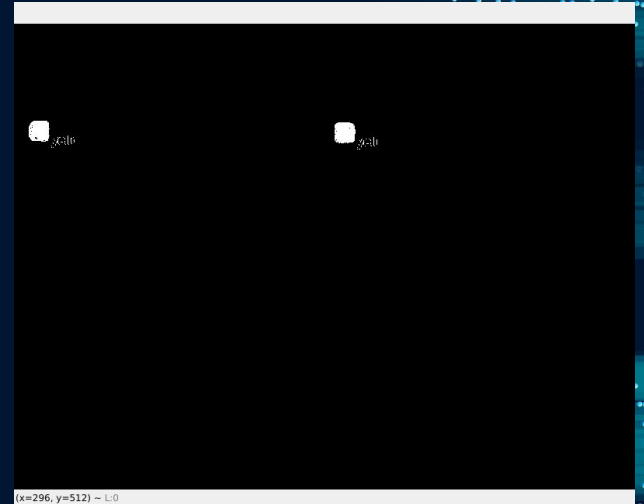
For giving me this opportunity it was an extremely fun challenge and I enjoyed every minute of it.

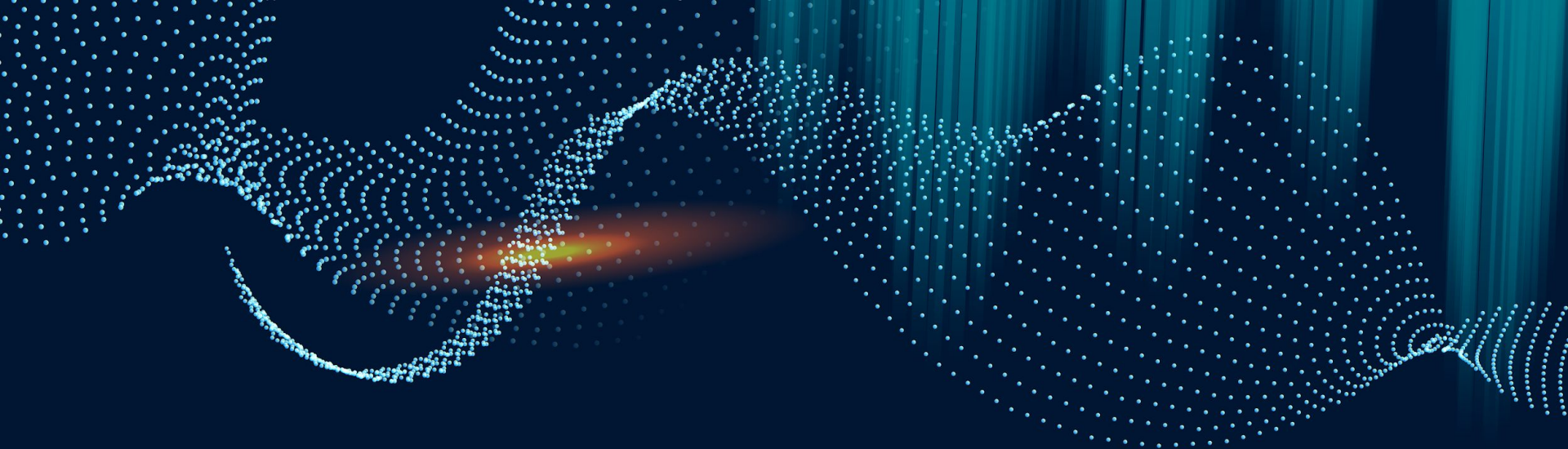


01 | MASK

MASK

First i created a mask of the image filtering out any colour instead of red,yellow and green. Leaving me with something like this. I calculated the RGB range for a bright traffic light.





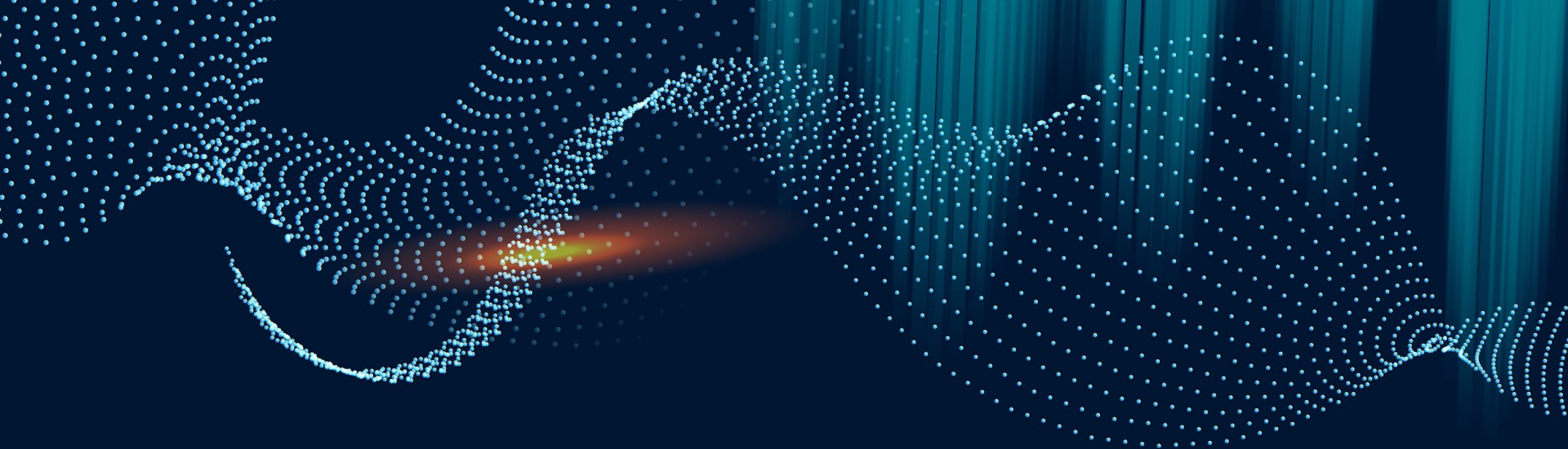
02

DETECTING LIGHTS

DETECTING

Now to detect the given circles i used `cv2.HoughCircles` which was able to highlight only the traffic light which was circular in nature. I also maintained a `minRadius` of 5 so that any noise in the picture won't be considered as a light.





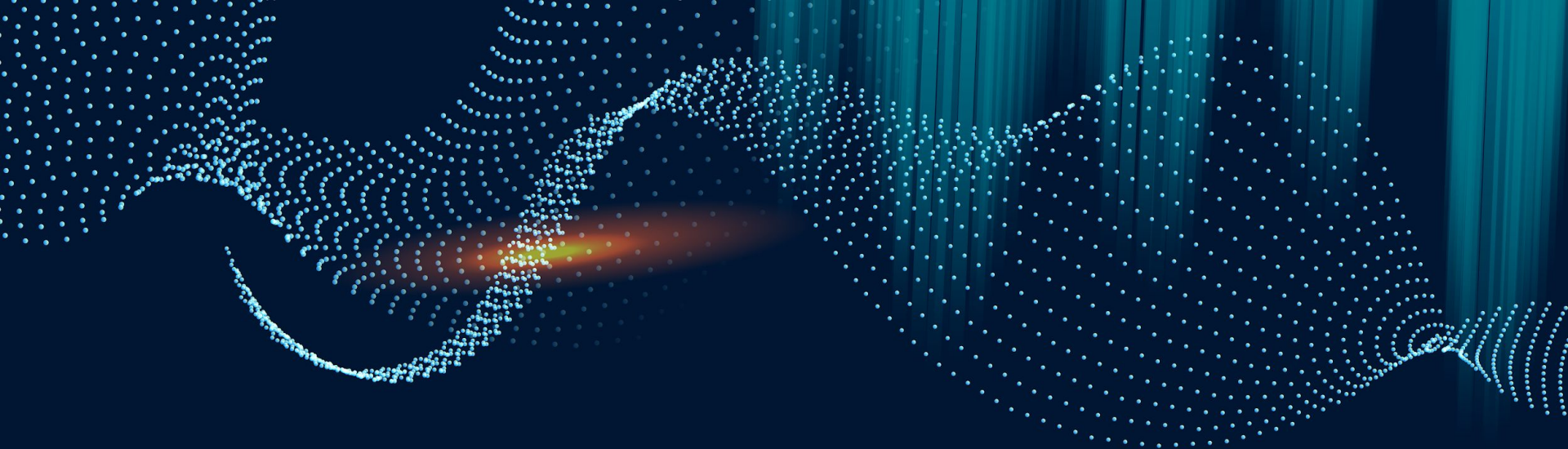
03

**RGB
IDENTIFY**

IDENTIFY

I then calculated the selected area RGB and created a function which was able to round up the RGB values to find the closest of the 3 colours Red, Green and Yellow. I wrote the identified colour onto the images using `cv2.putText`.





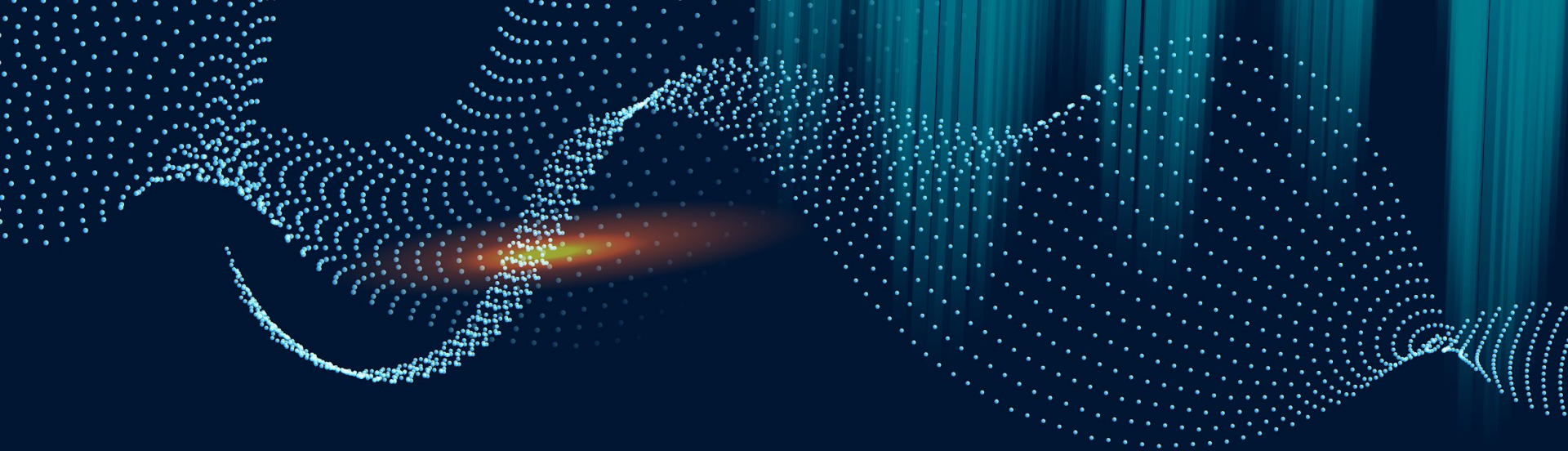
04

**RASPBERRY
PI**

RASPBERRY PI

I haven't been able to get my hands on a raspberry pi yet. But would love to play around with it in the future.





05

PIPELINE

PIPELINE

I realise my method is a bit amateur and not extremely reliable. However with deep learning we can train a classifier which will isolate only the image of the traffic light and then identify and produce the result.

Original image → Localize traffic sign area → Use houghCircle to identify and isolate circular light → Identify colour of light RGB → RESULTS

