MS

MIHIR SUVARNA

Programmer | Java, Python, Swift, and C++

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DR. PRABHU

PROFESSOR • PENN-STATE UNIVERSITY • SMART PARK LEADER

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Dear Dr. Prabhu,

    License plate recognition seemed like a hard task at hand at first, but now looking at it, I see that there are many simple workarounds to properly detect a license plate from a still image. I looked over the resources that were emailed to me a couple months ago; these resources proved crucial to my knowledge in this field of expertise, since I have not had any real experience with this before. Over the course of the last couple weeks, I have gained an understanding about how license plate recognition works, and I have chosen Open CV as my method of implementation. Using the resources provided to me, I fiddled around with many test cases and found the 6% error rate that the program claimed to have; when reading from a image of a vehicle with a grill and poor lighting, the program is often tricked into thinking that the grill is in fact the license plate instead of the license plate being recognized by the program. Since it is equally as common to come across a car with a grill like a Lexus, it will be accounted for in future updates of this program. As of now, this has not been accounted for, but most other images work just fine. Attached with this document are some example license plate JPG's, with which my code has been run against. In these cases, my code produced a snippet of the license plate, as requested, and the snippets are enclosed. I would love to continue working on this program; I would need more tasks and I would need to find challenges that this program may come across, along with heuristic solutions.

Sincerely,

```
noise_remo...
cv2.namedW...

cv2.imshow...


equal_hist...
cv2.namedW...

cv2.imshow...


kernel = c...
morph_image...
cv2.namedWindow("Morphological opening",cv2.WINDOW_NORMAL)
cv2.imshow("Morphological opening",morph_image)
```