

Department of Computer Engineering

Program:	Computer Engineering	Course:	CMPE-443 IPCV
Examination:	CEP	Session	2020
Maximum Marks:	30	Semester:	7th
Time allowed:	Till end of semester	Date:	16-11-2023

Instructions

- You are to work in a team of two to three peers to do this project.
- Only **one solution** to each problem must be given.
- **All necessary working must be clearly shown to receive full credit.**
- **Solve the written portion of this project on this question paper.** Use **A4 white paper** only, if extra pages are needed.

Sr. No	Description			Marks
1	CLO: 3	Domain: Cognitive/5	PLO: 4	20
	<p>One of the applications of computer vision is to enable a computer to be able to recognize traffic signs. In this project you will be implementing a portion of this application. A template for the sign representing disabled people has been provided to you in the image handicapped.png. The image captured.png is a captured image which contains the sign representing disabled people. <i>Manually</i> find out the coordinates of the four vertices bounding the sign, in both, the template as well as the captured image. These are going to be your ‘interesting points’.</p> <p>(a) Which technique can you use to get a computer to match the 4 pairs of corresponding interesting points in the template and the captured image?</p> <p>(b) Explain how you can find out the homography between the template and the captured image using the corresponding points in part (a).</p> <p>(c) Explain how you can use this homography to warp the the sign present in the captured image so that it matches the dimensions of that present in the template.</p> <p>Marks = [4 + 8 + 8]</p>			
2	CLO: 3	Domain: Cognitive/5	PLO: 4	10
	<p>Implement your algorithms in Problem 1 parts (a) to (c) and show the result after warping the sign present in captured.png so that it matches the dimensions of that present handicapped.png.</p>			