



Aditya College of Engineering & Technology

Aditya Nagar, ADB Road, Surampalem - 533437

DEPARTMENT OF INFORMATION TECHNOLOGY

B. Tech 4/4, II-SEMESTER

II Semester 2020-21

SOCIAL DISTANCING AND MONITORING ROBOT FOR QUEUE

ABSTRACT

Social distancing is of key importance during the current pandemic. It helps limit the spread of covid by observing distance between disease spreading individuals. Now it is not possible to station a person 24×7 at each queue to monitor social distancing violations. Banks, Public Offices, Malls, Schools, Theatres etc. usually see long queues for hours every day.

To ensure social distancing in queues we hereby design a social distancing monitoring robot. The robot consists of a 4-wheel design system used to drive the robotic vehicle. It makes use of a line following principle to constantly move along with the queue and monitor for social distancing violations. The robotic uses IR sensing to travel along with the queue to and from in order to detect violations. The robot is now equipped with obstacle detecting ultrasonic sensor in order to detect obstacles in the vehicle path. The robotic vehicle uses another ultrasonic sensor for detecting distance between two individuals in a queue. If any two individuals are found having less than three feet distance between them, the robot instantly sounds a buzzer and alert to inform about the violation. Also, it sends alerts of these violations along with a camera picture using Wi-Fi over IoT to inform the higher authorities/head office to update them about violations with proof so instant disciplinary action can be taken. Thus this project allows for automatic maintaining social distancing in queues to help prevent spread of the virus.

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Course Outcomes (COs)

Course Outcomes

After completing this course, the student will be able to:

CO Number	CO Statement	Taxonomy
CO1	Demonstrate the technical knowledge to identify problems in the field of Information Technology and its allied areas.	Understand
CO2	Use literature to identify the objective, scope and the concept of the work.	Apply
CO3	Analyze and formulate technical projects with a comprehensive and systematic approach.	Analyse
CO4	Identify the modern tools to implement technical projects.	Evaluate
CO5	Design engineering solutions for solving complex engineering problems.	Create
CO6	Develop effective communication skills, professional behaviour and team work.	Understand

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CO-PO/PSO MATRIX:

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
CO1	3	2	1	2		1			3	2	2	2	3	2	
CO2	2	1	2	2	1	1		1	3	2	2	2	3	3	1
CO3	1	1	3	3	1	1			3	2	2	2	3	2	1
CO4	3	1	3	2	3	1		2	3	2	2	2	2	3	2
CO5	3	2	3	3	3	1		1	3	2	3	2	2	1	1
CO6	1	1	1	2	1	1		2	2	3	2	2	1	1	2
Course	2.2	1.3	2.2	2.3	1.5	1.0		1.0	2.8	2.2	2.2	2.0	2.3	2.0	1.2

PO1	Engineering Knowledge	PO7	Environment & Sustainability
PO2	Problem Analysis	PO8	Ethics
PO3	Design / Development of Solutions	PO9	Individual & Team Work
PO4	Conduct Investigations of complex problems	PO10	Communication Skills
PO5	Modern Tool usage	PO11	Project Management & Finance
PO6	Engineer & Society	PO12	Life-long Learning

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