AI BASED SURVEILLANCE & MONITORING SYSTEM TO CATCH PERPETRATORS

A PROJECT REPORT

Submitted by

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In partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

IN

ELECTRONICS AND COMMUNICATION ENGINEERING
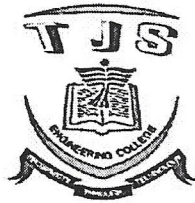
T.J.S. ENGINEERING COLLEGE, PERUVOYAL, CHENNAI

ANNA UNIVERSITY: CHENNAI 600 025

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BONAFIDE CERTIFICATE

Certified that this project report "AI BASED SURVEILLANCE & MONITORING SYSTEM TO CATCH PERPETRATORS" is the bonafide work of the following students

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who carried out the project work under my supervision

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Submitted to the Project Viva-Voce held on 27.06.2022 at T.J.S Engineering College, Peruvoyal.

INTERNAL EXAMINER

EXTERNAL EXAMINER

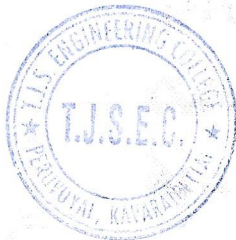**PRINCIPAL**
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ABSTRACT

Nowadays most of the 300 million surveillance cameras today are 'blind' and merely record videos for post incident manual analysis, So The system deals with the development of an application for automation of video surveillance in Scene machines and detect any type of potential criminal activities that might be arising with the automated system which would considerably decrease the inefficiency that are existing in the prevalent systems. An advanced Human detection system using Open Computer Vision technique and Artificial Intelligence would be utilized which would create phenomenal results in the detection of the activities and their categorization. The proposed system makesefficient use of OpenCV which has more than 2500 optimized algorithms. These algorithms can be used to detect and recognize faces, identify objects, classify human actions in videos, track camera movements, track moving objects finally ending up with the detection and identification of the necessary action for the prevention of such type of activities. The entire mechanism takesplace in real time, decreasing the time complexity to a great extent making the system an efficient mechanism to prevent such anti-social activities. To Track the whereabouts of the vehicle used in the crime we have brought together NUMBER PLATE DETECTION.

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EC8551 COMMUNICATION NETWORKS

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OBJECTIVES: The student should be made to:
- Understand the division of network functionalities into layers.
- Be familiar with the components required to build different types of networks
- Be exposed to the required functionality at each layer
- Learn the flow control and congestion control algorithms

UNIT I FUNDAMENTALS & LINK LAYER   9

Overview of Data Communications- Networks – Building Network and its types– Overview of Internet - Protocol Layering - OSI Mode – Physical Layer – Overview of Data and Signals - introduction to Data Link Layer - Link layer Addressing- Error Detection and Correction 62

UNIT II MEDIA ACCESS & INTERNETWORKING   9

Overview of Data link Control and Media access control - Ethernet (802.3) - Wireless LANs – Available Protocols – Bluetooth – Bluetooth Low Energy – Wi-Fi – 6LowPAN–Zigbee - Network layer services – Packet Switching – IPV4 Address – Network layer protocols (IP, ICMP, Mobile IP)

UNIT III ROUTING   9

Routing - Unicast Routing – Algorithms – Protocols – Multicast Routing and its basics – Overview of Intradomain and interdomain protocols – Overview of IPv6 Addressing – Transition from IPv4 to IPv6

UNIT IV TRANSPORT LAYER   9

Introduction to Transport layer –Protocols- User Datagram Protocols (UDP) and Transmission Control Protocols (TCP) –Services – Features – TCP Connection – State Transition Diagram – Flow, Error and Congestion Control - Congestion avoidance (DEC bit, RED) – QoS – Application requirements

UNIT V APPLICATION LAYER   9

Application Layer Paradigms – Client Server Programming – World Wide Web and HTTP - DNS- - Electronic Mail (SMTP, POP3, IMAP, MIME) – Introduction to Peer-to-Peer Networks – Need for Cryptography and Network Security – Firewalls.

TOTAL:45 PERIODS

OUTCOMES: At the end of the course, the student should be able to:
- Identify the components required to build different types of networks
- Choose the required functionality at each layer for given application
- Identify solution for each functionality at each layer
- Trace the flow of information from one node to another node in the network