

Name: Shvethaa D B

Roll no.: CB.EN.U4CCE21066

B. Tech Final Year Project

4-Channel Data Collection and Management System for Edge Computing

Abstract

A scalable data collection system using pre-existing channels in the Beaglebone platform at a system baud rate of 115200 bps, is designed for collection, monitoring, and analysis integrating two RGB cameras, IR sensor and gas sensor. A reliable database management system will be implemented to ensure extensive data logging and efficient retrieval, enabling thorough analysis of the collected data. Dual camera Computer Vision system will be implemented for identifying the subject of interest while obtaining the maximum amount of information from the collected data. By leveraging the capabilities of the Beagle bone and the integrated sensors, the system aims to enhance security measures through real-time monitoring and data processing. The collected data will be utilized for intruder detection.

Keywords: Data collection and management, Real-time Monitoring, Intruder Detection, Computer Vision