

AI Driven Staff Room Lecture Presence Recognition System

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Abstract: *Classroom lecture detection and tracking systems have emerged as one of the important IoT-driven solutions in educational institutions for automating the monitoring of the lecturer presence, which is also known to increase the operational efficiency resulting in better resource utilization. This survey reviews the advancements employing RFID for contactless identification, ESP32 microcontrollers for edge processing and also Zigbee protocols for low-power wireless networking. After reviewing few available reviews, we trace architectural evolutions, implementation methodologies and performance metrics, achieving 90 - 98 per cent accuracy in real time tracking. The methodology mentioned outlines a modular IoT framework with cloud integration for flexible deployments. Literature highlights the RFID's dominance, not to ignore the challenges like privacy and interference, while future scopes include AI hybrids and 5G enhancements. Results demonstrate that there is 70 to 80 per cent reductions in administrative overhead, highlighting these systems' role in smart campuses. Continuous innovations in architectures and training strategies position IoT-RFID as mainstay for generative educational modeling*

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