Facial Attendance Hub: A Smart Attendance System using Face Recognition

Prof Ashwini Wakodikar[1], Rupal Khobragade[2], Bhawana Asatkar[3]

Assistant Professor, Computer Application[1]

MCA, Computer Application[2,3]

K. D. K College of Engineering, Nagpur, Maharashtra, India

ashwini.wakodikar@kdkce.edu.in, rupalkhobragade.mca23@kdkce.edu.in, bhawanaasatkar.mca23@kdkce.edu.in

Abstract: *Managing attendance in educational institutions and workplaces manually is often time-consuming and prone to errors. Traditional methods, such as roll calls or paper-based records, lack efficiency and are vulnerable to proxy attendance. To overcome these limitations, this paper introduces Facial Attendance Hub, an advanced system that utilizes facial recognition technology to automate the attendance process. The system integrates **OpenCV** for detecting faces, **Local Binary Patterns Histograms (LBPH)** for face recognition, and **Firebase** for real-time database management. By processing live video streams, the system identifies individuals by matching their faces with a pre-trained database, marking attendance seamlessly. Designed for scalability, ease of use, and security, the system ensures precise and efficient attendance tracking. Experimental evaluations indicate high accuracy and real-time responsiveness, making it a practical solution for modern attendance.*

Keywords: Face Recognition, Attendance System, LBPH, OpenCV, Firebase, Biometric Authentication, Real-Time Processing

Copyright to IJARSCT
www.ijarsct.co.in

DOI: 10.48175/IJARSCT-25818

97

ISSN
2581-9429
IJARSCT