

# Face Recognition Based Attendance System

**Minal Solanki<sup>1</sup>, Rupal Khobragade<sup>2</sup>, Yash Baksare<sup>3</sup>**

Students, Master of Computer Application<sup>1,2,3</sup>

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

minal.solanki@kdkce.edu.in<sup>1</sup>, rupalkhobragade.mca23@kdkce.edu.in<sup>2</sup>, yashbaksare.mca23@kdkce.edu.in<sup>3</sup>

**Abstract:** *The advent of facial recognition technology has revolutionized several sectors, including attendance management systems. Traditional attendance tracking methods, such as paper-based systems or biometric scanners, are often cumbersome and error-prone. On the other hand, facial recognition offers a more convenient and accurate alternative. This paper provides a comprehensive overview of face recognition based presence system. The proposed system uses advanced computer vision algorithms to identify and authenticate individuals based on their faces. Using deep learning techniques such as Convolutional Neural Networks (CNN), the system can achieve high accuracy and robustness under various environmental conditions. The main components of the proposed system are face recognition, feature extraction and matching. During recording, the system takes images of people's faces and extracts individual features for identification. During attendance monitoring, the system compares captured images with registered models to verify the identity of individuals in real time.*

**Keywords:** Face recognition, Attendance management, Computer vision, Deep learning, Convolutional neural networks, Biometric authentication

## REFERENCES

- [1]. A brief history of Facial Recognition, NEC, New Zealand, 26 May 2020. [Online]. Available: <https://www.nec.co.nz/market-leadership/publications-media/a-brief-history-of-facialrecognition>
- [2]. Agrawal, S., Khatri, P.: Facial expression detection techniques: based on Viola and Jones algorithm and principal component analysis. In: 2015 Fifth International Conference on Advanced Computing & Communication Technologies, pp. 108–112. IEEE (2015)
- [3]. Stelea, G.A., Gavrilă, C., Zamfir, S., Curpen, R.: Face recognition for education in the cloud. eLearning Softw. Educ. 2, 181–188 (2017)
- [4]. Shrivastava, K., Manda, S., Chavan, P., Patil, T., Sawant-Patil, S.: Conceptual model for proficient automated attendance system based on face recognition and gender classification using Haar-Cascade, LBPH algorithm along with LDA model. Int. J. Appl. Eng. Res. 13(10), 8075–8080 (2018)
- [5]. Robinson-Riegler, G., & Robinson-Riegler, B. (2008). Cognitive psychology: applying the 64 science of the mind. Boston, Pearson/Allyn and Bacon.
- [6]. Reichert, C. Intel demos 5G facial-recognition payment technology | ZDNet, 2017. [online] ZDNet. Available at: [https://www.zdnet.com/article/intel-demos-5g-facial-recognition-elligence%20\(AI\)](https://www.zdnet.com/article/intel-demos-5g-facial-recognition-elligence%20(AI).). [Accessed 25 Mar. 2018].