

International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)

International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal

Volume 4, Issue 1, April 2024

## Face and Multi-Fingerprint Based ATM System through Machine Learning

Mr. Dharne Jayesh A.<sup>1</sup>, Miss. Deshmukh Puja<sup>2</sup>, Miss. Gorse Ashwini<sup>3</sup>,

Miss. Maniyar Afsha<sup>4</sup>, Miss. Landge Nikita<sup>5</sup>

Professor, Department of Information Technology<sup>1</sup> Students, Department of Information Technology<sup>2,3,4,5</sup> Amrutvahini Polytechnic, Sangamner, India

**Abstract:** Fingerprints and facial features of the individual are being used in biometric authentication techniques, which are increasingly extensively used across significant implementations. Despite the fact that there multiple facial recognition systems accessible. A greater number of researches should unearth factors that improve efficiency and accuracy. Facial as well as fingerprint identification play an important part in the identifying process since they do not need human assistance, unlike some other biometrics methods. This not only proves the huge potential to create far greater protection for such Virtual ATM transactions, but also explains the reasoning why biometric identification systems have been attracting so much attention.. Therefore, for this purpose an effective framework for biometric authentication on Virtual ATMs through the use of biometric features, such as Facial and Fingerprint have been proposed. The presented framework utilizes Live Streaming and Region of Interest along with Channel boosted Convolutional Neural Networks and OTP authentication has been implemented. The framework has been measured using lengthy experimentations to achieve quite reassuring outcomes.

Keywords: Face Recognition, Fingerprint Recognition, Virtual ATM, Machine Learning

## REFERENCES

[1] M. Geetha, R. S. Latha, S. K. Nivetha, S. Hariprasath, S. Gowtham and C. S. Deepak, "Design of face detection and recognition system to monitor students during online examinations using Machine Learning algorithms," 2021 International Conference on Computer Communication and Informatics (ICCCI), Coimbatore, India, 2021, pp. 1-4, doi: 10.1109/ICCCI50826.2021.9402553.

[2] C. Fu, X. Wu, Y. Hu, H. Huang and R. He, "DVG-Face: Dual Variational Generation for Heterogeneous Face Recognition," in IEEE Transactions on Pattern Analysis and Machine Intelligence, vol. 44, no. 6, pp. 2938-2952, 1 June 2022, doi: 10.1109/TPAMI.2021.3052549

[3] K. Eiamsaard, P. Bamrungthai and S. Jitpakdeebodin, "Smart Inventory Access Monitoring System (SIAMS) using Embedded System with Face Recognition," 2021 18th International Joint Conference on Computer Science and Software Engineering (JCSSE), 2021, pp. 1-4, doi: 10.1109/JCSSE53117.2021.9493815.

[4] F. Liu, Q. Zhao, X. Liu and D. Zeng, "Joint Face Alignment and 3D Face Reconstruction with Application to Face Recognition," in IEEE Transactions on Pattern Analysis and Machine Intelligence, vol. 42, no. 3, pp. 664-678, 1 March 2020, doi: 10.1109/TPAMI.2018.2885995.

[5] G. Singh and A. K. Goel, "Face Detection and Recognition System using Digital Image Processing," 2020 2nd International Conference on Innovative Mechanisms for Industry Applications (ICIMIA), 2020, pp. 348-352, doi: 10.1109/ICIMIA48430.2020.9074838.

[6] F. Zhang, T. Zhang, Q. Mao and C. Xu, "Geometry Guided Pose-Invariant Facial Expression Recognition," in IEEE Transactions on Image Processing, vol. 29, pp. 4445-4460, 2020, doi: 10.1109/TIP.2020.2972114.

[7] Z. Jianxin and L. Haoran, "Local occluded face recognition based on 2DDWT and sparse representation," 2020 5th International Conference on Mechanical, Control and Computer Engineering (ICMCCE), Harbin, China, 2020, pp. 2110-2114, doi: 10.1109/ICMCCE51767.2020.00459.



## IJARSCT



International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)

International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal

## Volume 4, Issue 1, April 2024

[8] L. Fu and X. Shao, "Research and Implementation of Face Detection, Tracking and Recognition Based on Video," 2020 International Conference on Intelligent Transportation, Big Data & Smart City (ICITBS), 2020, pp. 914- 917, doi: 10.1109/ICITBS49701.2020.00202

[9] S. Shavetov and V. Sivtsov, "Access Control System Based on Face Recognition," 2020 7th International Conference on Control, Decision and Information Technologies (CoDIT), 2020, pp. 952-956, doi: 10.1109/CoDIT49905.202 0.9263894.

[10] D. Wang, H. Yu, D. Wang and G. Li, "Face Recognition System Based on CNN," 2020 International Conference on Computer Information and Big Data Applications (CIBDA), 2020, pp. 470-473, doi: 10.1109/CIBDA50819.2020. 00111.

[11] B. TejChinimilli, A. T., A. Kotturi, V. Reddy Kaipu and J. VarmaMandapati, "Face Recognition based Attendance System using Haar Cascade and Local Binary Pattern Histogram Algorithm," 2020 4th International Conference on Trends in Electronics and Informatics (ICOEI)(48184), 2020, pp. 701-704, doi: 10.1109/ICOEI48184.2020.9143046.

