

# Survey on Design of Deep Learning Algorithm for Application by Image based Face Recognition

Ms. Jyoti Raghatwan<sup>1</sup>, Gaurav Durgude<sup>2</sup>, Adwait Hande<sup>3</sup>, Abhishek Sonawane<sup>4</sup>, Pratik Shinde<sup>5</sup>

BE Students, Department of Computer Engineering<sup>1,2,3,4</sup>

Professor, Department of Computer Engineering<sup>5</sup>

RMD Sinhgad School of Engineering, Pune, India

**Abstract:** For recognizing the face of any person, the most prime feature is the face, face recognition method is the best method for recognizing an individual than any other biometric methods. In face recognition, system can identify a person from video or image but in this proposed system, the face is identified only from real-time images. The process for authenticating face is partitioned into two steps, first step is to detect face using Haar Cascade algorithm which is a machine learning object detection algorithm, it does object detection using haar feature based cascade classifiers which is an effective object detection method purposed by Paul Viola & Michael Jones. The second step is to recognize an individual's face using LBPH (Local Binary Patterns Histogram) algorithm. The main purpose of this research is to recognize and detect an individual's face in real-time camera-based image capturing.

**Keywords:** LBPH (Local Binary Pattern Histogram) Algorithm, Haar Cascade Algorithm.

## REFERENCES

- [1]. Md. Abdur Rahim Md. Najmul Hossain Tanzillah Wabid. Md. Shafiqul Azam "Face recognition using local binary patterns (LBP)". 2013
- [2]. Farah Deeba, Aftab Ahmed. Fayaz Ali Dharezo, Hira Memon, AbdulGaffar "LBPH- based Enhanced Real time Face recognition" 2019.
- [3]. Sudha Sharma, Mayank Bhatt Pratyush Sharma "Face recognition System using Machine Learning Algorithm" 2020 .
- [4]. Tian Xuehong "Facial recognition system and its application" 2009 International conference on information science and Engineering"(ICISE2009) .
- [5]. Neel Ramakant Borkar, Sonia Kuwelkar "Real time implementation of face recognition system" 2017 Proceedings of the IEEE 2017 International Conference on Computing Methodologies and Communication"(ICCMC) .
- [6]. Dhirajkumar Kharat, Pratik Kajawe, Sagar Kopnar, Nohid Jinabade, Jagruti Wagh "Face detection using haar cascade classifier" 2019.
- [7]. Lixiang Li, Xiaohui Mu, Siying Li, Haipeng Peng "A review of face recognition technology" 2020.
- [8]. Ms. Akshata Uday Naik, Dr. Nitesh Guinde "LBPH algorithm for frontal and side profile face recognition on GPU" 2020 Proceedings of the Third International Conference on Smart Systems and Inventive Technology" (ICSSIT 2020).
- [9]. Li Cuimei, Qi Zhiliang, Jia Nan, Wu Jianhua "Human face detection algorithm via Haar cascade classifier combined with three additional classifiers" 2017.
- [10]. Apurva Nene, Hemant Jain, Kanak Gaikar, Sanket Bohra, Dr. Nayana Mahajan "Facial Recognition System Using LBPH Algorithm and Raspberry Pi" 2021 International Research Journal of Engineering and Technology" (IRJET) 2021.
- [11]. Bhavana R. Maale, Dr. Suvarna Nandyal "Face Detection Using Haar Cascade Classifiers" 2021.