** GEETHANJALI COLLEGE OF ENGINEERING AND TECHNOLOGY (Autonomous)**

**Cheeryal (V), Keesara (M), Medchal Dist., Telangana - 501 301**

**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

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**MINI PROJECT ABSTRACT**

**IV B.Tech. I SEMESTER CSE - C Section**

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| **BATCH NUMBER: C3** | **Mini Project** | **Academic Year:**  **2024-2025** |

**PROJECT TITLE:**

Automated Blood Group Detection

**TEAM MEMBERS:**

|  |  |  |  |  |
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**GUIDE DETAILS:**

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***Project In-charge Guide with Date Project Coordinator***

**ABSTRACT**

Determining blood type is essential including in emergency situation. Currently, these tests are performed manually by technicians, which can lead to human errors. Various systems have been developed to automate these tests, but none is able to perform the analysis in time for emergency situations. The project aims to address the need for efficient and accurate blood typing methods in healthcare settings. The project utilizes pre-acquired palm images obtained through sensors. These images serve as inputs for the proposed system. Initially, the images undergo preprocessing to enhance quality and remove noise, ensuring optimal analysis. Feature extraction methods are then applied to discern distinctive patterns associated with different blood groups from the palm images. Subsequently, machine learning algorithms such as support vector machines (SVM) Convolution Neural Networks (CNN) are trained on a dataset comprising labeled palm images and corresponding blood groups. The proposed system offers several advantages over manual blood typing methods, including speed, objectivity, and scalability. Moreover, its non-invasive nature reduces the risk of contamination and ensures patient safety. This mini project contributes to advancing healthcare technologies, with potential applications in blood transfusion services, clinical laboratories, and emergency medical care.

**Keywords:** Blood Group Detection, Image Processing, Machine Learning, Fingerprint Images, Preprocessing, Feature Extraction, Support Vector Machines, Convolution Neural Networks (CNN) , Blood Typing.

**Objective:**

* Develop an automated system for blood group detection using Fingerprint images.
* Train machine learning models and Evaluate the performance of the trained models.

**Commercializable: Yes/No:** Yes

**REFERENCES:**

* <https://ijarsct.co.in/Paper15393.pdf>
* <https://www.ijraset.com/best-journal/blood-group-detection-through-finger-print-images-using-image-processing>
* <https://www.emerald.com/insight/content/doi/10.1108/AGJSR-10-2022-0223/full/html>

**Date of Submission:** 27-04-2024

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