

## **Nearest Blood & Plasma Donor Finding: A Machine Learning Approach**

The necessity of blood has become a significant concern in the present context all over the world. Due to a shortage of blood, people couldn't save themselves or their friends and family members. A bag of blood can save a precious life. Statistics show that a tremendous amount of blood is needed yearly because of major operations, road accidents, blood disorders, including Anemia, Hemophilia, and acute viral infections like Dengue, etc. Approximately 85 million people require single or multiple blood transfusions for treatment. Voluntary blood donors per 1,000 population of some countries are quite promising, such as Switzerland (113/1,000), Japan (70/1,000), while others have an unsatisfying result like India has 4/1,000, and Bangladesh has 5/1000. Recently a life-threatening virus, COVID-19, spreading throughout the globe, which is more vulnerable for older people and those with pre-existing medical conditions. For them, plasma is needed to recover their illness. Our Purpose is to build a platform with clustering algorithms which will jointly help to provide the quickest solution to find blood or plasma donor. Closest blood or plasma donors of the same group in a particular area can be explored within less time and more efficiently.

## **Android blood donor life saving application in cloud computing**

In the present work an  $H^\infty$ -control technique is presented and applied to the design of optimal multirate-output controllers. The technique is based on multirate-output controllers (MOCs) having a multirate sampling mechanism with different sampling period in each measured output of the system. The proposed technique relies on multirate-output controllers. Its main feature consists in reducing the original problem, to an associate discrete  $H^\infty$ -control problem for which a fictitious static state feedback controller is to be designed. The proposed  $H^\infty$ -control technique is applied to the discrete linear open-loop system model which represents a 117 MVA hydrogenerator unit supplying power through a step-up transformer and a transmission line to a infinite grid and give good assurance that the controllers designed by the  $H^\infty$ -control technique may be implementable.

## **BLOODR: blood donor and requester mobile application**

With rapid increase in the usage of social networks sites across the world, there is also a steady increase in blood donation requests as being noticed in the number of posts on these sites such as Facebook and twitter seeking blood donors. Finding blood donor is a challenging issue in almost every country. There are some blood donor finder applications in the market such as Blood app by Red Cross and Blood Donor Finder application by Neologix. However, more reliable applications that meet the needs of users are prompted.

## **Finding the Blood Donor and Inventory Monitoring via Mobile Application**

Blood is a significant part of the human body because it is essential for life. Nowadays, should make use of modern technologies to use in all fields like medical areas, especially the blood banks, which is a big challenge in poor countries. Despite many applications being provided via the internet, they lack privacy, authenticity, and reliability, and some need to purchase. Since the Mobile technology is widely spread and many people have their own mobile devices. In addition, the managing of blood bags starting from the donation step requires careful planning and control. So, the aim study is to create a trusted, effective way to connect donors and patients directly in time. A Mobile-Based Blood Bank Management System has been offered as a mechanism for finding the nearest suitable donors and provides an easy way to manage information and monitor the blood inventory, which helps reduce the number of people who die due to expired blood. This Application was developed through Android Studio and delivered the result on a Real-time basis.

## **The Optimization of Blood Donor Information and Management System by Technopedia**

Blood is a saver of all existing lives in case of emergency needs. During the blood transfusion process, the acceptor receiving blood should be considered before donating the blood. The blood donor information should be checked before displaying their details on the website. Technopedia is nothing but web service with a mobile application. In this paper, we propose an extended web application to timely update the information regarding the donors, acceptor and patients where the administrator access the whole information about blood bank management system. Also the proposed work has a Push technology with security, to protect the contact details of the donors in web application where it can be misused by third parties. It also maintains the amount of each available blood groups, if the stock of a particular blood group is lower than the required amount then the proposed method notifies the donor to donate blood. In addition to web application, an android mobile application is proposed to search the donors who are available nearby during the emergency cases such as accidents. Further we include Geographic Information System (GIS) in the mobile application where the data is transmitted between mobile application and the website through wireless network. The web based android application is readily scalable, efficient and adaptable to meet the complex need of blood bank who is key facilitators for the healthcare sector. Hence the life at threat can be saved by this optimization technique.