**Automatic Red Blood Cell Counting Using Hough Transform**

**ABSTRACT**

The major issue in clinical laboratory is to produce a precise result for every test especially in the area of Red Blood Cell (RBC) count. The number of red blood cell is very important to detect as well as to follow the treatment of many diseases like anemia, leukemia etc. Red blood cell count gives the vital information that help diagnosis many of the patient’s sickness. The old conventional method of RBC counting under microscope gives an unreliable and inaccurate result depends on clinical laboratory technician skill. This method puts a lot of strain on the technician. Another method for RBC counting uses the automatic hematology analyzer, this machine is very costlier. So it is not possible all the hospital’s clinical laboratory implement such an expensive machine to count the blood cell in their laboratory. This paper introduces an efficient and cost effective computer vision system for automatic red blood cell counting using image based analysis.

**Keywords—** Health care applications, Red Blood Cell count, MATLAB, Morphological operations, Hough Transform.