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**ACUTE LYMPHOBLASTIC  LEUKEMIA DIAGNOSIS IN BLOOD MICROSCOPIC IMAGES USING LOCAL BINARY PATTERN AND SUPERVISED CLASSIFIER**

**A PROJECT REPORT**

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***in partial fulfillment for the award of the degree***

***of***

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**ANNA UNIVERSITY : CHENNAI 600 025**

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**BONAFIDE CERTIFICATE**

Certified that this project report **“ACUTE LYMPHOBLASTIC LEUKEMIA DIAGNOSIS IN BLOOD MICROSCOPIC IMAGES USING LOCAL BINARY PATTERN AND SUPERVISED CLASSIFIER”** is the bonafide work of **“NANDHINI R (211414205057), MANIMOZHI R (211414205047), PRIYANKA G (211414205081) ”** who carried out the project under my supervision.

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**DECLARATION**

We hereby declare that the project report entitled “**ACUTE LYMPHOBLASTIC  LEUKEMIA DIAGNOSIS IN BLOOD MICROSCOPIC IMAGES USING LOCAL BINARY PATTERN AND SUPERVISED CLASSIFIER**” which is being submitted in partial fulfilment of the requirement of the course leading to the award of the ‘Bachelor Of Technology in Information Technology ’ in **Panimalar Engineering College, Affiliated to Anna University- Chennai** is the result of the project carried out by us under the guidance and supervision of **Mrs.R.PREETHI., M.Tech., Assistant Professor** in the **Department of Information Technology**. I further declared that we or any other person has not previously submitted this project report to any other institution/university for any other degree/ diploma or any other person.

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**ABSTRACT**

Acute lymphoblastic leukemia (ALL) is a subtype of acute leukemia that is well-known among adults. The average age of someone with ALL is sixty five years. The want for automation of leukemia detection arises when you consider that modern-day methods contain manual exam of the blood smear as the first step towards prognosis. That is time-ingesting, and its accuracy relies upon at the operator’s capacity. On this paper, a easy method that mechanically detects and segments ALL in blood smears is provided. The proposed method differs from others in: 1) The simplicity of the advanced technique; 2) Type of entire blood smear images in place of sub images; and 3) Use of those algorithms to section and locate nucleated cells. pc simulation concerned the following checks: comparing the effect of Hausdorff dimension on the device earlier than and after the impact of neighborhood binary pattern, evaluating the overall performance of the proposed algorithms on sub snap shots and entire pictures, and comparing the outcomes of a number of the existing structures with the proposed machine. Eighty microscopic blood photographs were tested, and the proposed framework controlled to gain 98% accuracy for the localization of the lymphoblast cells and to separate it from the sub pictures and whole pictures. As a extension we are giving the patient details all to cloud. Here we are giving two modes. One mode is editing mode and other one is non-editing mode. Editing mode is preserved for doctor side and non editing mode is preserved for patient. That is patient can view the result and doctor can edit the results as in the sense of patient condition.

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**LIST OF ABBREVATIONS**

|  |  |
| --- | --- |
| **SYMBOL** | **EXPANSION** |
| ALL | Acute Lymphoblastic Leukemia |
| DRLBP | DescriptoR Local Binary Pattern |
| FNN | Feedforward Neural Network |
| PNN | Probabilistic Neural Network |
| PCA | Principal Component Analysis |
| LBP | Local Binary Patten |
| GLCM | Gray Level Co-occurrence Matrix |
| WBC | White Blood Cell |
| SFS | Sequential Forward Selection |
| ANN | Artificial Neural Network |
| SVM | Support Vector Machine |
| PCG | PhonoCardioGram |
| GUI | Graphical User Interface |
| API | Application Programming Interface |
| MATLAB | MATrix LABoratory |
| DFD | Data Flow Diagram |
| SSADM | Structured-Systems Analysis and Design Method |
| UML | Unified Modelling Language |
| RGB | Red Green Blue |
| IJRDT | International Journal for Research & Development in Technology |