**MINI PROJECT – 2**

**(2019-20)**

**MALARIA DETECTION USING ML**

**SYNOPSIS**



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**About the Project:**

Malaria is mosquito-borne blood disease caused by parasites of the genus Plasmodium. Conventional diagnostic tool for malaria is the examination of stained blood cell of patient in microscope. The blood to be tested is placed in a slide and is observed under a microscope to count the number of infected RBC. An expert technician is involved in the examination of the slide with intense visual and mental concentration. This is tiresome and time consuming process

We construct a new image processing system for detection and quantification of plasmodium parasites in blood smear slide, later we develop Machine Learning algorithm to learn, detect and determine the types of infected cells according to its features

Malaria parasite (MP) in blood sample can be identified by using image segmentation and feature extraction using minimum distance classifier. Based on Image Acquisition, Image Preprocessing, Image Smoothing, Thresholding and Dilation image segmentation is done.

Feature extraction uses two phases in architectural model:

1) Training Phase

2) Recognition Phase- Which helps to recognize the MP.

In this work, we focus

1) Automated detection and quantification of malaria detection

2) Strategy to determine infected image using machine learning

3) Discuss to improve the predictive value for detection of infected cells

**Motivation:**

Traditional method of detecting malaria disease is using microscope which is time consuming and is difficult, which needs considerable expertise of laboratory technician. People who are bitten by female anopheles mosquito infected with P.falciparum are most at risk of dying from malaria. Most of the research has found that a person with little or no immunity to malaria such as young children, pregnant women, or travelers coming from areas with no malaria is most likely to become sick or die. Poor people living in rural areas who lack access to health care are at greater risk for the disease.

**Future Prospects:**

So far, we have trained our data with feature extraction techniques called contour detection and then using RandomForest Classifier , We will proceed towards making this accuracy better. Either we train our model with some different data set or apply changes in feature extraction technique

**Requirements:**

**Software Requirements:**

* Python IDE

**Install Libraries:**

* Pandas
* Scikit-learn
* Joblib
* Opencv