ScreenerPlus APP

Leveraging AI for Malaria Diagnosis into a mobile application.

Team IntelliTech

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Introduction

- ScreenerPlus is an app that scans blood smears if positive with malaria or not.
- It also has the option to upload blood smear taken from third party microscopes.
- It has option to capture blood smears using lenses or 100x zoom camera

Solution Overview

- Al model trained to detect malaria parasites in blood samples.
- Utilizes deep learning algorithms for a good accuracy.
- Integrated into a flutter mobile application.
- User-friendly interface for healthcare professionals and lay-man users.

Problem Statement

- Most countries in west africa are known for high level of malaria cases,
- About 97% of Nigerians are open to risk of malaria (WHO, 2023)
- In 2022, Nigeria has highest percentage of global malaria cases
- 27% in the world and 55% in West Africa (World Malaria Report, 2022)
- Manual diagnosis is time-consuming and prone to errors.
- Give way for non-technical individual to test for malaria

Key Features

User Interface:

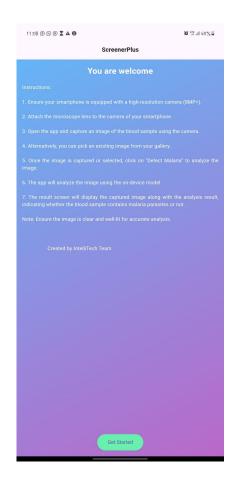
- Easy-to-navigate dashboard.
- Real-time detection and result display.

Accuracy and Speed:

- High precision in parasite detection.
- Fast processing time for large datasets.

Reporting:

- Generates detailed diagnostic reports (In future)
- Exportable data formats in PDF CSV (In future)



Positive Use-Case



You are welcome

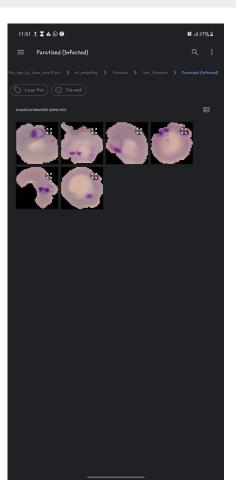
Instruction

- 1. Ensure your smartphone is equipped with a high-resolution camera (8MP+).
- 2. Attach the microscope lens to the camera of your smartphone.
- 3. Open the app and capture an image of the blood sample using the camera.
- 4. Alternatively, you can pick an existing image from your gallery.
- 5. Once the image is captured or selected, click on "Detect Malaria" to analyze the image.
- 6. The app will analyze the image using the on-
- 7. The result screen will display the captured image along with the analysis result, indicating whether the blood sample contains malaria parasites or not.

Note: Ensure the image is clear and well-lit for

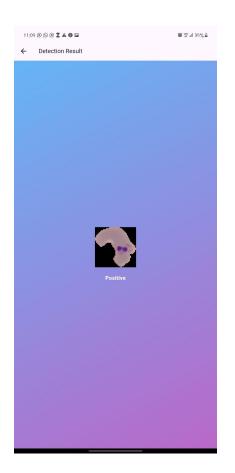
Get Started





Positive Use-Case







Negative Use-Case



You are welcome

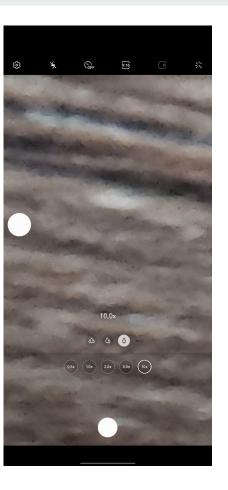
Instructions

- 1. Ensure your smartphone is equipped with a high-resolution camera (8MP+).
- 2. Attach the microscope lens to the camera of your smartphone.
- 3. Open the app and capture an image of the blood sample using the camera.
- 4. Alternatively, you can pick an existing image from your gallery.
- 5. Once the image is captured or selected, click on "Detect Malaria" to analyze the image.
- 6. The app will analyze the image using the ondevice model.
- 7. The result screen will display the captured image along with the analysis result, indicating whether the blood sample contains malaria parasites or not.

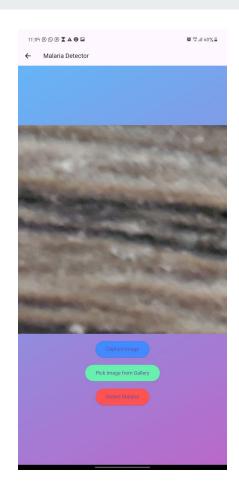
Note: Ensure the image is clear and well-lit for

Get Started





Negative Use-Case







Technical Details

- Used available dataset after proper cleaning
- Training process and validation.
- Model: Tensorflow, Numpy, TFLite,
- Backend: Python, TensorFlow/Keras.
- Deployment: Cloud-based or on-premises options.

Case Study

Real-World Application:

- Example of successful implementation in a clinic or hospital.
- Feedback from healthcare professionals.
- Impact on diagnosis speed and accuracy.

Benefits

For Healthcare Providers:

- Reduces diagnostic workload.
- Enhances diagnostic accuracy.

For Patient:

- Faster diagnosis leads to quicker treatment.
- Reduces the risk of complications from delayed treatment.

Thank You