PROBLEM STATEMENT

Skin diseases vary in types, we are given the problem to identify the type of skin disease using AI based localization with Erythema. Our main goal is to identify the type of disease that the patient is affected with to make them aware and start to proceed by treating their skin.

IDEA / SOLUTION DESCRIPTION

Our idea is to train the machine with various types of skin diseases by applying the knowledge of Data Science and Advance Machine Learning to make it capable for identifying the skin disease by using the set of fed Dataset. The machine uses advanced algorithms and image processing method to achieve the main goal/objective.

NOVELTY / UNIQUENESS

The machine will be trained with the latest version of YOLO which currently is YOLOv5. Compared to other solutions performances, this machine is set to be fast and accurate in terms of mean average precision (mAP) and intersection over union (iOU) as well. It runs significantly faster than other detection methods with comparable performance.

The images that are trained to follow the algorithm are trained by using Microsoft Visual Object Tagging Tool or VOTT in short, which is an open-source annotation and labelling tool for image and video assets including features such as; The ability to label images or video frames, extensible model for importing data from local or cloud storage providers, and model for exporting labelled data to local or cloud storage providers.

For the current project, our datasets and image annotate will be stored in Cloudant DB, which is a non-relational, distributed database service provided by IBM.

SOCIAL IMPACT / CUSTOMER SATISFACTION

- With our product the patients will learn about the type of disease that had affected them so that they could act accordingly to cure it.
- In the absence of a skin specialist, the machine can identify the affecting disease and hence the patient will be able to look for a cure rather than waiting for a doctor.
- Providing a user-friendly interface and an ease for the patients to use it.

BUSINESS MODEL

- First and foremost, benefit from this model is the reduction of time consumption for identification of any unknown skin disease.

- Treatment can be proceeded even without the presence of a skin specialist and hence the chances for not avoiding major effect on the skin is reduced to a millennial.

SCALABILITY OF SOLUTION

With the advancement of technology, the software will be updated annually. New datasets will be recorded and stored in the cloud storage for new cases of unknown skin diseases. The training of images and algorithm applied will also be updated timely with maintenance.