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**PROPOSED SOLUTION**

### **AI-based Localization and Classification of Skin Disease with Erythema**

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**AIM:**

To describe the proposed solution for AI based localization and classification of skin disease with Erythema.

**PROPOSED SOLUTION:**

| **S.No** | **PARAMETER** | **DESCRIPTION** |
| --- | --- | --- |
| 1 | Problem Statement | * Skin cancer rate is rapidly increasing over the last few decades especially Melanoma is the most diversifying skin cancer. * If skin diseases are not treated at an earlier stage, then it may lead to complications in the body including spreading of the infection from one individual to the other. * Skin cancers, including melanoma and non-melanoma are more likely to occur in those with a history of frequent erythematous sun exposure. * There’s also a rare ,severe form that can affect the mouth, genitals and eyes which can be life threatening. * The characteristic of the skin images is diversified so that it is a challenging job to devise an efficient and robust algorithm for automatic detection of skin disease and its severity. * Automatic processing of such images for skin analysis requires quantitative discriminator to differentiate the diseases. |
| 2 | Idea/ Solution Description | * To overcome the above problem we are building a model which is used for the prevention and early detection of skin cancer, psoriasis. * In general, the diagnosis of skin diseases depends on many traits including colour, form, texture, etc. * Here, an individual can capture skin-related images, which will subsequently be transmitted to a trained model. * The model examines the image to determine whether the person is suffering from a skin disease. * The datasets have been preprocessed using the Yolo model in which disease is detected based on erythema classification. * The processed data is sent to User Interface(UI) which is transferred to IBM cloudant. * The processed Image is compared based on its dataset classification and the output is predicted. |
| 3. | Novelty/ Uniqueness | * Compared to a baseline model trained without segmentation, our classification model performs more accurately. * IBM Watson is also deployed to more accurately optimize user time while automating complicated actions and developing predictions about the future. |
| 4. | Social Impact / Customer Satisfaction | * Helps people with skin infections to detect Skin cancer at an early stage with a good accuracy rate. * This model is integrated with sustainable development goal (SDG) no.3 by ensuring healthy lives and promoting well-being at all ages is essential for sustainable development. |
| 5. | Business Model (Revenue Model) | * It can be collaborated with NGO healthcare, government camps to create awareness and provide knowledge about the benefits of the proposed model. |