**AI BASED LOCALIZATION AND CLASSIFICATION OF SKIN ERYTHEMA**

**TEAM.NO:**4

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| **Ideas** |  |
| Idea 1 | An android smartphone application that can identify skin diseases using deep learning through Convolutional Neural Network by capturing the skin lesion and analysing the lesion using neural network model like MobileNet can be developed. |
| Idea 2 | A chatbot can be developed such that we can upload the images of the rashes on the skin and provide information to the chatbot on other symptoms and medical questions. We can also upload the products which we have used to treat the skin lesions and the chatbot can give the answers based on the products or medication uploaded. |
| Idea 3 | Segmentation and classification of skin lesions in dermatological images can be done by using a local thresholding algorithm to separate skin lesions based on border, texture and colour based features are then extracting the necessary features from the digital images. The extracted features can then be used to construct a classification model based on Support Vector Machines (SVM) for the recognition of malignant melanoma and other deadly skin diseases. |
| Idea 4 | A Convolutional Neural Network like ResNet50 can be used to extract the features from skin lesion images and then DeepForest, a novel decision tree ensemble approach with high performance can be used to classify these images. This method has been used because DeepForest has been found to be hugely efficient in areas where there are only small-scale training data available. Also as the DeepForest network decides its complexity by itself, it also caters to the problem of dataset imbalance we faced in this problem. |
| Idea 5 | Images of skin are captured and different characteristics of skin disease diagnosis like colour, shape, texture etc and then sent to IBM Watson studio and object detection model like YOLO is trained using the captured images and then the trained YOLO model is then used to analyse the image and detect whether the person is having skin disease or not. |