**API Documentation**

DermAI API

The Skin Disease Prediction API allows you to classify skin diseases based on an uploaded image. It utilizes a pre-trained deep learning model to predict the class of the skin disease among four possible classes: Melanoma, Melanocytic Nevi, Basal Cell Carcinoma, and Actinic Keratosis.

Base URL

The base URL for the API is:

<http://localhost:5000/>

Endpoint

POST /predict

Request

Method: POST URL:<http://localhost:5000/predict>

Request Body: The request body should be a multipart/form-data containing the following field:

* image: The image file to be classified.

Example Request:

POST /predict HTTP/1.1 Host: localhost:5000 Content-Type: multipart/form-data; boundary=----WebKitFormBoundary7MA4YWxkTrZu0gW

* -----WebKitFormBoundary7MA4YWxkTrZu0gW Content-Disposition: form-data; name="image"; filename="skin\_image.jpg" Content-Type: image/jpeg

<binary image data> ------WebKitFormBoundary7MA4YWxkTrZu0gW--

Response

The API will respond with a JSON object containing the following fields:

* class\_index: The index of the predicted class (0-3).
* class\_label: The label of the predicted class (Melanoma, Melanocytic Nevi, Basal Cell Carcinoma, or Actinic Keratosis).

Example Response:

HTTP/1.1 200 OK Content-Type: application/json

{ "class\_index": 1, "class\_label": "Melanocytic Nevi" }

Error Responses

400 Bad Request: If the request is missing the required image file or the file is not a valid image. 500 Internal Server Error: If there is an error during the prediction process.

Model Details

The skin disease prediction model is based on the EfficientNet architecture and has been pre-trained on a dataset of skin disease images. The model file used is 'skin\_disease\_model\_efficientnet.h5'.

The input image is resized to (224, 224) pixels and normalized before being passed through the model for prediction.

Dependencies

The API uses the following dependencies:

* Flask: A web framework for building the API.
* Flask-CORS: A Flask extension for handling Cross-Origin Resource Sharing (CORS).
* NumPy: A library for numerical computing in Python.
* Keras: A deep learning framework for loading and running the pre-trained model.

Make sure to install these dependencies before running the API.