

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.