



# Derma!@

Burn Grading and Treatment Recommendation Platform

## TEAM

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### Burn Image Upload

Browse files



TensorFlow

Burn Severity  
Classification

Partial Thickness



Treatment  
Recommendations

# Problem Statement

## Burn Grading and Treatment Recommendation Platform

Burn injuries are medical emergencies that require quick and accurate assessment to avoid complications.

Traditional diagnosis is often manual, time-consuming, and prone to human error, especially in resource-limited settings.

There is a lack of intelligent tools to assist healthcare providers in classifying burn severity and providing appropriate treatment recommendations.

An AI-based solution can help in automating diagnosis, improving consistency, and supporting early clinical decision-making.



# How DermalQ Benefits Society



**AI-powered diagnosis** enables fast and consistent burn classification, even in under-resourced or rural areas.



**Early detection** and intervention help reduce infection risks, hospital stays, and complications.



**Treatment recommendations** support non-specialist doctors and first responders in emergency scenarios.



**Remote accessibility** promotes equitable healthcare through telemedicine and mobile platforms.

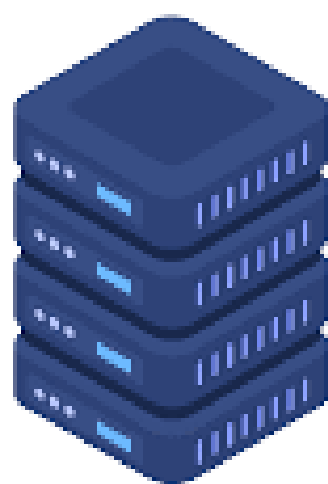


**DermalQ** enhances public health infrastructure and improves overall patient outcomes.








# Dataset Details

kaggle




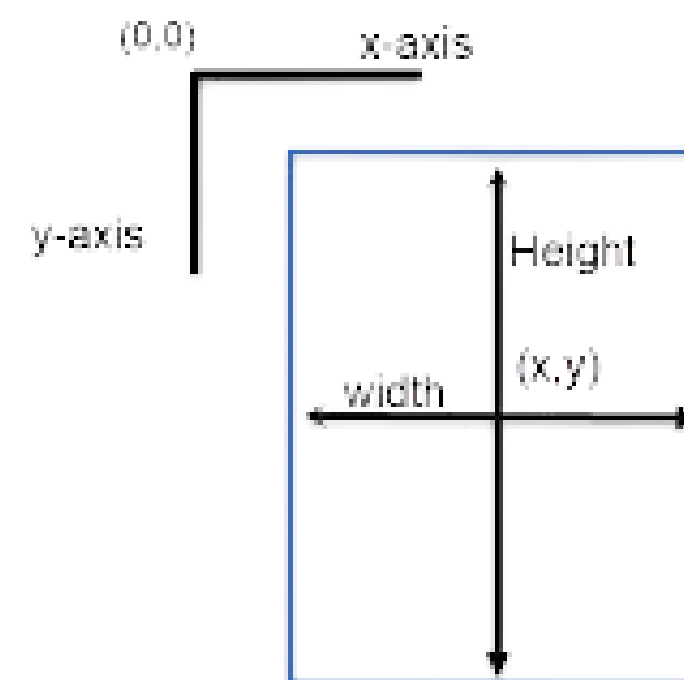
 Source: [Kaggle – Skin Burn Dataset by Shubham Baid](#)

-  Contains a total of 1334 skin burn images, categorized into:
-  1st-degree burns (mild outer layer damage)
  -  2nd-degree burns (partial thickness with blisters)
  -  3rd-degree burns (full thickness with severe damage)

 Also contains 1,334 YOLO-format .txt files, each corresponding to an image with:  
<Class> <x\_center> <y\_center> <width> <height>

This defines the bounding box and burn class for the region of interest in each image.

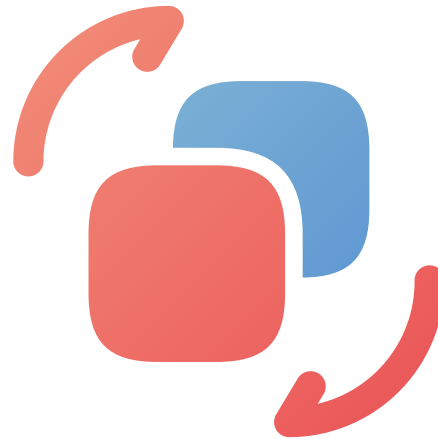
 These YOLO labels make the dataset suitable not only for classification but also for object detection and localization.







# Data Preprocessing



## 📁 YOLO to Classification Format

From a.py: Extracted class labels from YOLO annotation files (.txt)  
Copied corresponding images into class-specific folders (classification\_dataset/0, 1, 2)  
✅ Created a folder-structured dataset compatible with Keras and CNNs.

## 🍷 Image Resizing & Normalization

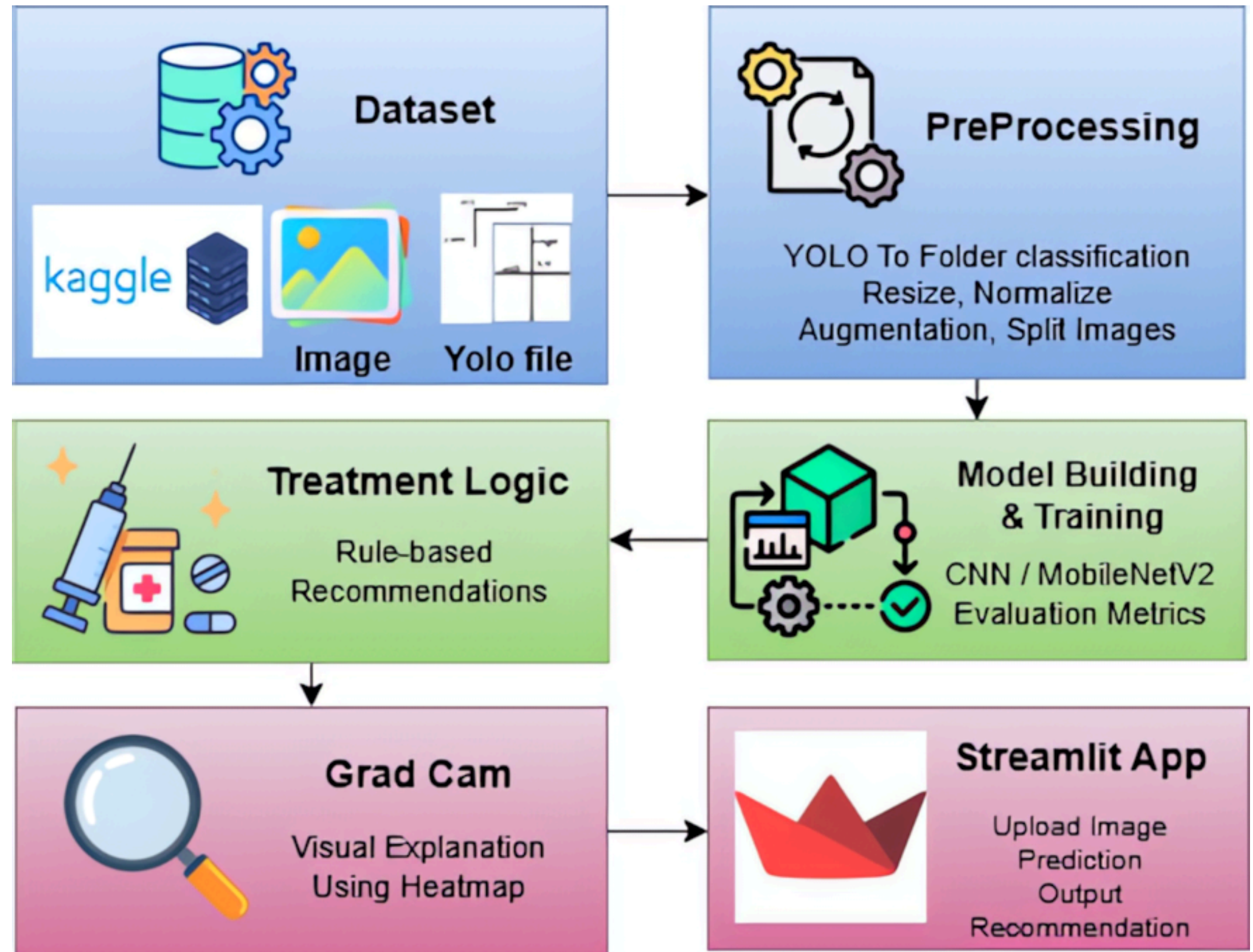
All images resized to 224×224 pixels  
Pixel values normalized to range [0, 1] using `rescale=1./255`  
✓ Implemented in `data_loader.py` using `ImageDataGenerator`



## 🌀 Data Augmentation

Applied rotation, zoom, and horizontal flipping to reduce overfitting and handle class imbalance  
80/20 split for training and validation

# DermalQ Project Pipeline



Thankyou