Although computer-aided diagnosis (CAD) is used to improve the quality

Given an image of the skin, we decompose the image to normalize and extract high-level features

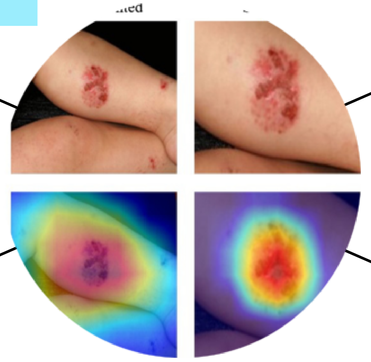
Using a neural network-based segmentation model to create a segmented map of the image

Our classification model is more accurate than a baseline model trained without segmentation

What do they THINK AND FEEL?

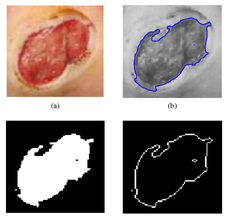
what really counts
major preoccupations
worries & aspirations

Diagnosis in various medical fields such as mammography and colonography, it is not used in dermatology



What do they HEAR?

what friends say
what boss say
what influencers say



We classify each cluster into different common skin diseases using another neural network mode

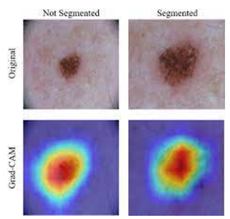
Our segmentation model achieves better performance compared to previous studies, and also achieves a near-perfect sensitivity score in unfavorable conditions

What do they SEE?

environment
friends
what the market offers

we then cluster sections of abnormal skin and pass this information to a classification model.

This improved performance may be sufficient to use CAD in the field of dermatology.



What do they SAY AND DO?

attitude in public
appearance
behavior towards others

We have shown that even without a large dataset and high-quality images

while also being able to classify multiple diseases within a single image

We drew contours around each cluster and used a convex hull algorithm to draw rectangles around these clusters and crop them as individual images

PAIN

fears
frustrations
obstacles

These cropped images were used as input to the Efficientnet, which generated a prediction along with the confidence rate.

These images were then input to the U-Net to generate the segmented output

Computer-aided diagnosis (CAD) is a computer-based system that is used in the medical imaging field to aid healthcare workers in their diagnoses

GAIN

"wants" / needs
measures of success
obstacles

CAD has become a mainstream tool in several medical fields such as mammography and colonography

Dermatologists perform most noninvasive screening tests only with the naked eye