

SKIN SKAN

**Revolutionizing Dermatological Diagnoses:
AI-Powered Skin Lesion Analysis**

Team :- Sponsors Presenting
the Skin Skan AI Based Project



The Problem:-



Skin cancer is the most common cancer type affecting humans.

- In fact, almost 10,000 people in the U.S. are diagnosed with skin cancer everyday.
- The two traditional methods for skin cancer are self-examination and clinical examination.
- In self-examination, the patient or a family member notices a lesion themselves
- The randomness in this is too high, because the patient might overreact underreact.

However, clinical examination requires expensive, specialized medical tools as well as training, effort to operate, time, and regular follow-ups

The Problem:-

- Close to half a million people go to the emergency department every year with burn injuries.
- Children are at high risk for accidental burns. Every day, more than 300 children receive emergency treatment for burn injuries. An estimated 180,000 deaths every year are caused by burns.

Burns require quick treatment-

- How do you know how severe your burn is and how to treat it based on that?

Our Solution:-

- Develop AI-powered skin lesion diagnosis that can accurately identify & classify skin lesions based on dermoscopic images.
- Use a deep learning algorithm to analyze images and provide diagnosis w/ high accuracy.
- User-friendly interface Recognize 8 different types of cancers and skin lesions Categorize 1st, 2nd, 3rd degree burns.
- Gives advice for all skin diagnoses.

Execution

❖ PyTorch

- Acquired skin cancer and burn datasets from Kaggle.
- Used transfer learning with the ResNet-18 Convolutional Neural Network.
- Finetuned our model based on the datasets.

❖ Flask

- Created Flask framework, combining Python and HTML.
- On the backend, called our model to develop predictions based on inputted images.
- On the frontend, employed Bootstrap and JavaScript to create a simple yet elegant interface for users.

Impact

Cancer

- ❖ Reduces costs and stress
 - For those who cannot afford to see a doctor, can easily check if their lesion is harmful or not
 - Also a quick solution for long wait times to receive professional diagnosis
- ❖ By diagnosing early, improves prognosis of the cancer

Burns

- ❖ By quickly checking the severity of a burn, can drastically improve the treatment and healing
 - Can tell patient whether or not hospital visit is necessary
 - Show best options to treat
- ❖ This will reduce pain and discomfort and improve healing time
- ❖ In severe burns, can prevent shock, respiratory distress, organ failure

THANK YOU