**Introduction:**

Skin cancer is a deadly disease. Skin has three basic layers. Skin cancer begins in outermost layer, which is made up of first layer squamous cells, second layer basal cells, and innermost or third layer melanocytes cell. Squamous cell and basal cell are sometimes called non-melanoma cancers. Non-melanoma skin cancer always responds to treatment and rarely spreads to other skin tissues. Melanoma is more dangerous than most other types of skin cancer. If it is not detected at beginning stage, it is quickly invade nearby tissues and spread to other parts of the body. Formal diagnosis method to skin cancer detection is Biopsy method.

In this project, the dataset contains seven different types of skin lesions. Melanocytic nevi (nv), Melanoma (mel), Benign keratosis (bkl), Basal cell carcinoma (bcc), Actinic Keratoses (akiec), Vascular skin lesions (vasc) and Dermotofibroma (df).

**Project synopsis:**

All the technological developments are found for human welfare, and one such technology is the skin cancer detection. Skin cancer detection using image classification is a time and life-saving concept. This is advantageous as it reduces the time taken by the doctors to diagnose by biopsy. In order to diagnose skin cancer speedily at the earliest stage and solve some of the aforementioned problems, there has been extensive research solutions by developing computer image analysis algorithms. Many techniques has been developed to easy the diagnoses of doctors as well as the self-assessment of the patient.

**Solution approach:**

Using the Deep Learning -based Image Classification. The dataset can be trained according to our requirements and validate it with a good accuracy. Convolutional neural networks plays the major role in shaping, flatten and establishing the same data in a pocketing manner. For real time assessment, open CV (open computer vision) is in the role. The data transferred is been trained and the machine is now able to identify the cancer caused area in both images and real time exhibition. This enables people to know the level of infection caused by cancer and their recovering rate.

**Assumption:**

Deep learning also enables us to be aware of the level of danger. This helps in the prediction of the severity of the condition and the recovery rate and death chance.