

Skincare: Mole detection app

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Overview

01 Description

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Improvements





01 Description

Project for healthcare
company skinCare

The Mission

Proof of Concept AI tool that detects a type of mole after uploading an image



The motivation



**Skin cancer is one of the most
widespread type of cancer**

1.20 million new cases in
2020, according to WHO

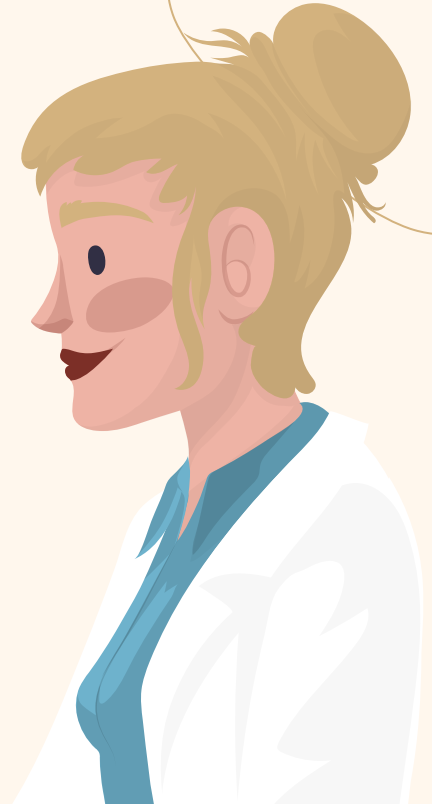


Early Detection

Cancer mortality is reduced
when cases are detected
and treated early

The Dataset 02

Skin cancer segmentation
and classification:
HAM10000 dataset



Pigmented lesion types in Dataset:

Akiec

Bowen's disease

Bcc

Basal cell carcinoma

Bkl

Benign keratosis-like
lesions



Mel

Melanoma

Df

Dermatofibroma

Nv

Melanocytic nevi

Vasc

Vascular lesions

HAM10000 metadata:

- Lesion Id
- Image Id
- Dx
- Dx type
- Age
- Sex
- Localization

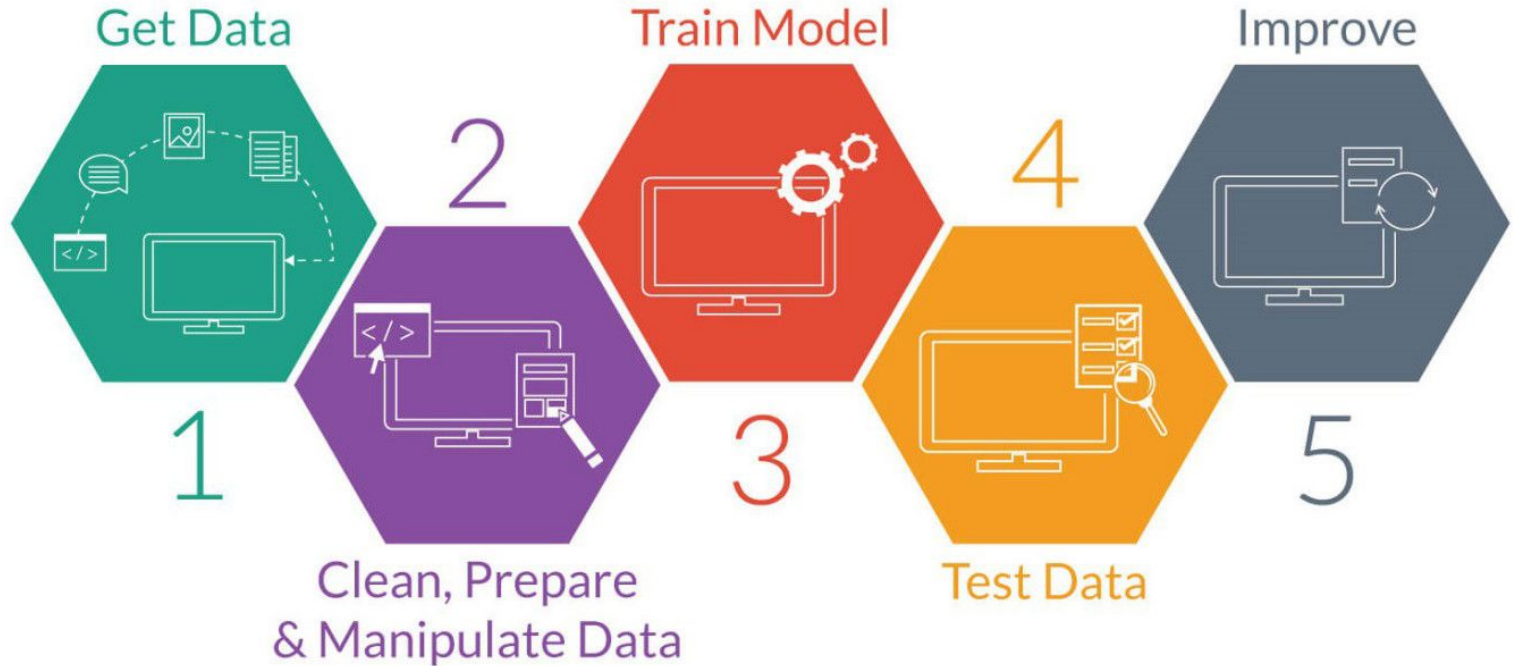


03

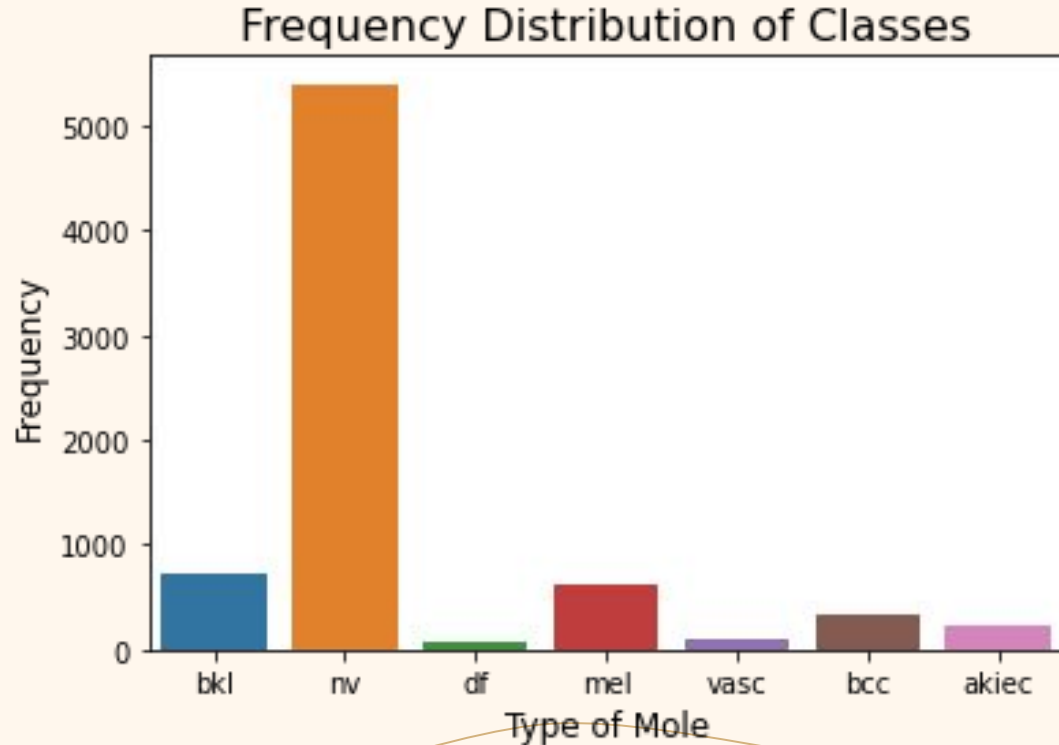
Development



Pipeline



Distribution of classes



Attempt to balance dataset:

**Random
Oversampling**

**Image
Augmentation**

Class Weighting

Sequential Model

**MobileNetV2
architecture**

ImageNet

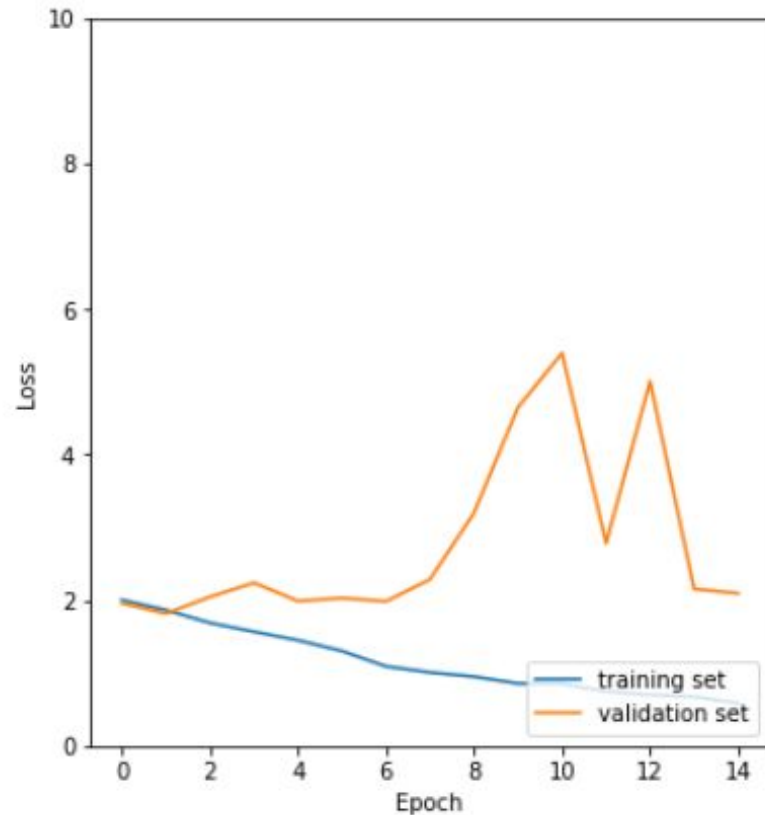
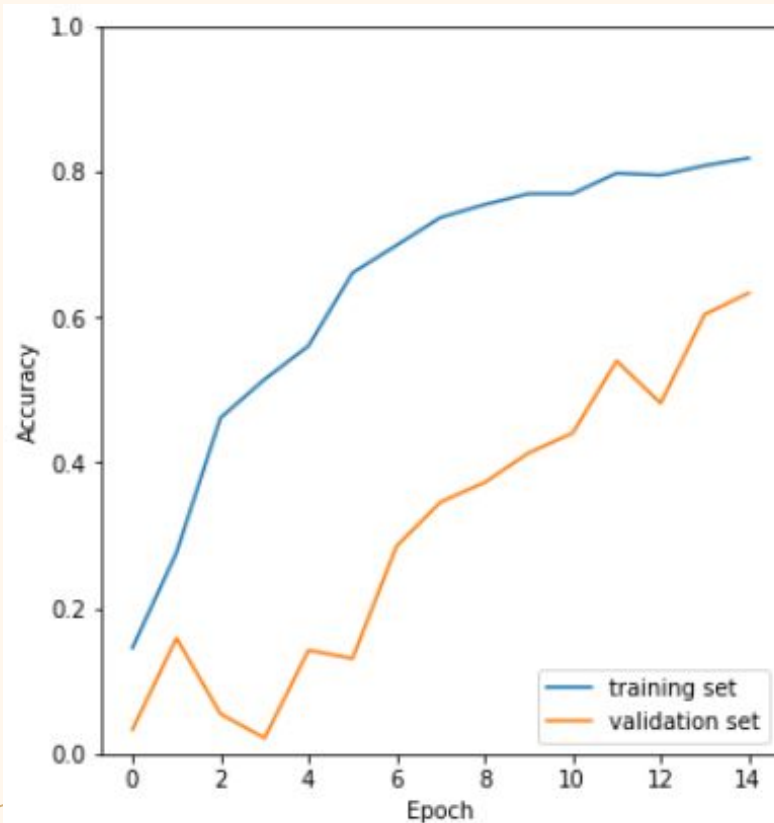
Dense Layer

MaxPool2D Layer

Dropout Layer

SGD optimizer

Training the model



Results Accuracy:



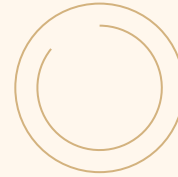
81%

Training set



63%

Validation Set



64%

Test set

Deployment of the app

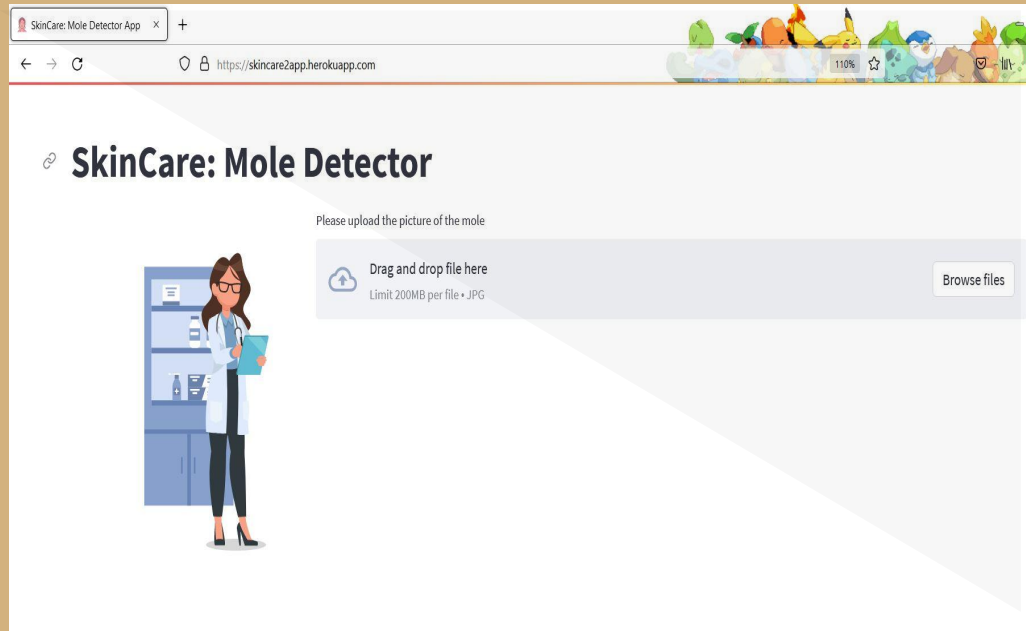


04

Demo and improvements



Demo Time



Improvements:



Better Model



Enhanced UI



**Thank you for your
attention.**

Any questions or comments?



Contact me



<https://www.linkedin.com/in/sebastiangarciamartinez>



References:

- Cancer. (n.d.). Retrieved May 25, 2022, from <https://www.who.int/news-room/fact-sheets/detail/cancer>

