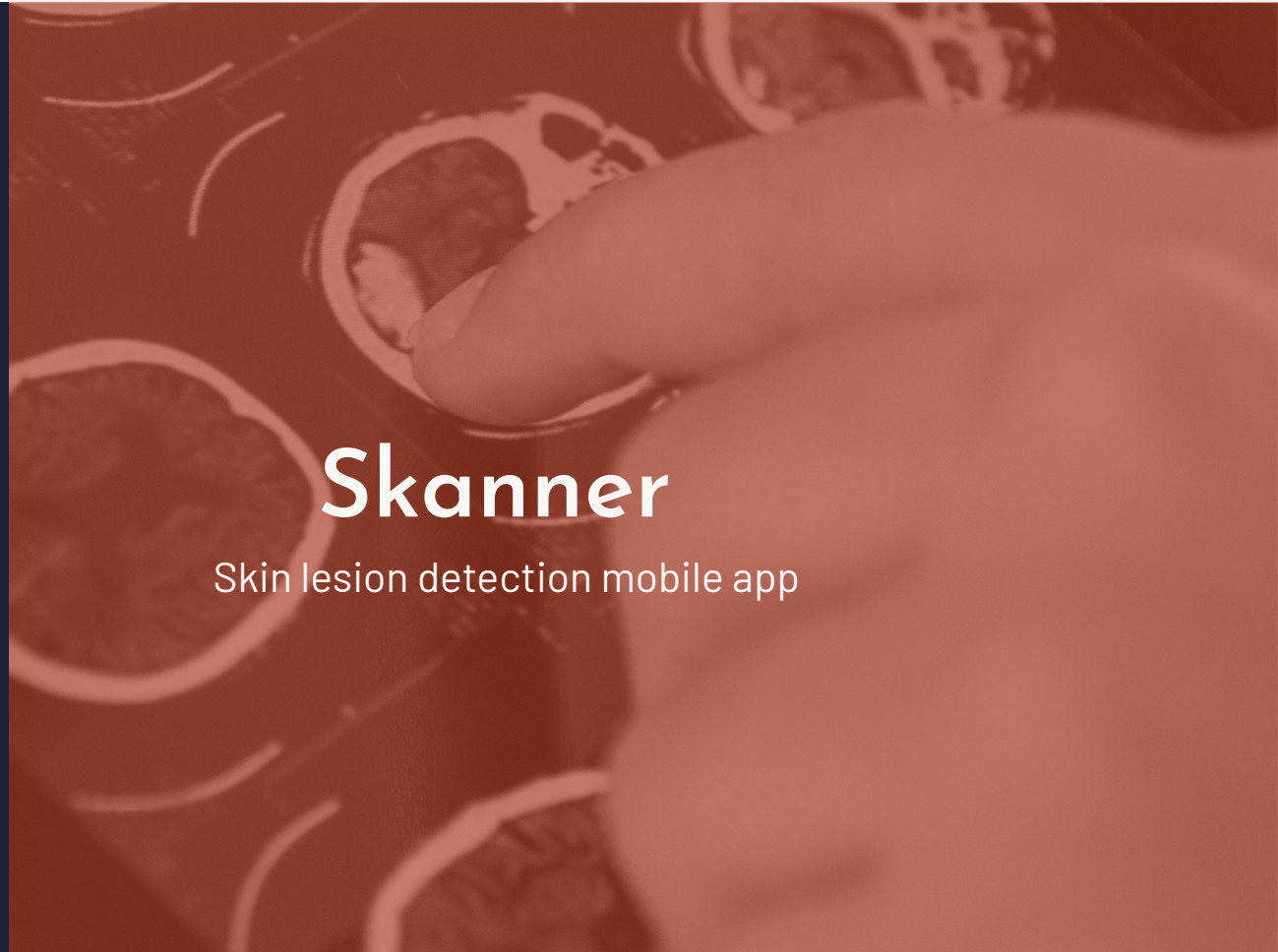

Skanner

Skin lesion detection mobile app

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01 WHY THIS SUBJECT ?

What is a skin lesion, its different shapes, and its effects worldwide ?

02 PATHOLOGY & TREATMENTS

How to prevent from cancerous mole ?

03 OUR SOLUTION & CHALLENGERS

The mobile app : mole scanner

04 AWS SUPPORT

Which technology is going to be used ?

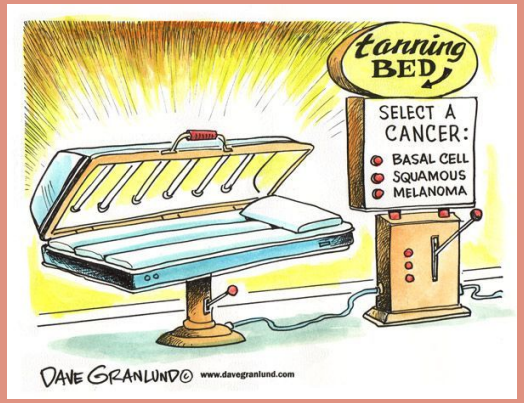
Why this subject ?

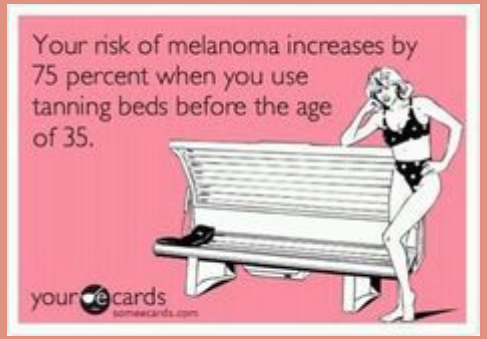
01

What is a skin lesion, its different shapes, and its effects worldwide ?


«It’s not “Just Skin Cancer” when it’s the largest organ of your body »
Thekinographie.com

Dark Humour..


tanning BED
SELECT A CANCER:
BASAL CELL
SQUAMOUS
MELANOMA
DAVE GRANLUND© www.davegranlund.com


Your risk of melanoma increases by 75 percent when you use tanning beds before the age of 35.
ecards

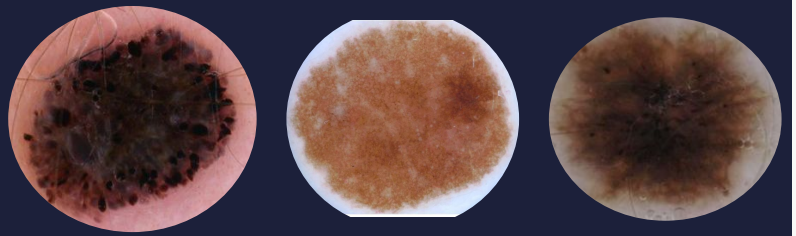
ABOUT THE DISEASE

A skin lesion is an abnormal lump, bump, ulcer, sore or colored area on the skin

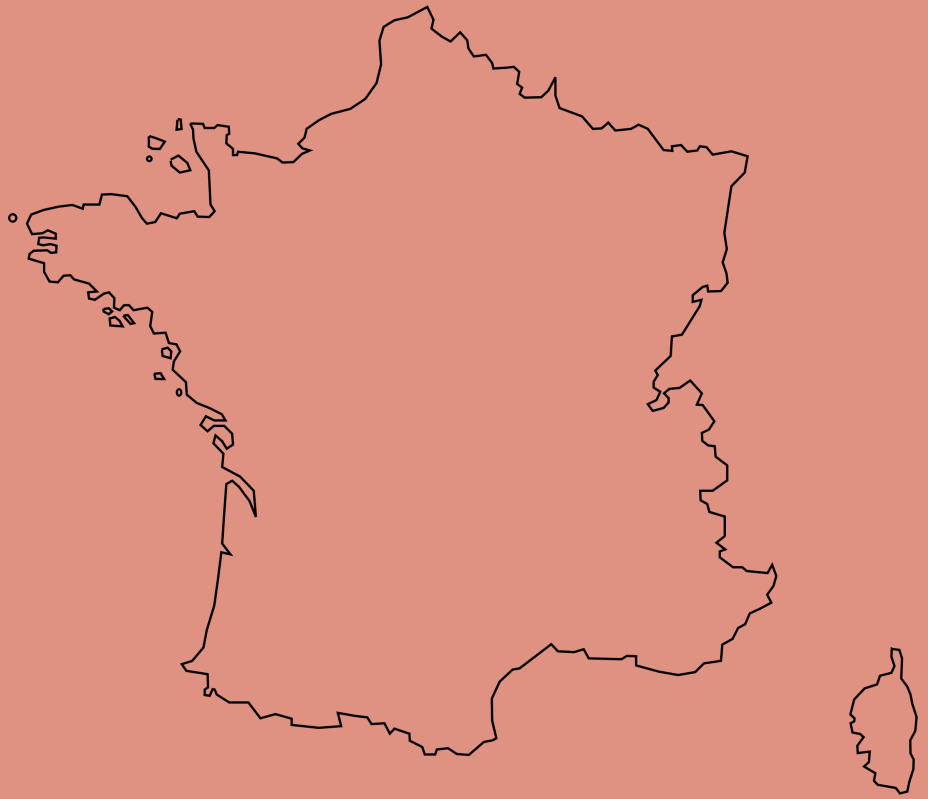
A benign **mole** can change into a cancer at anytime.

Actinic keratosis are mark cause by a long exposure to sunlight.

Mole are small skin marks. The shape can be fat, raised, smooth or rough. The colour is dark, brown, red or yellow.



PREVALENCE



80 K

Number of people diagnosed with a skin lesion per year

2 K

Number of deaths from a skin lesion per year

RISK FACTORS

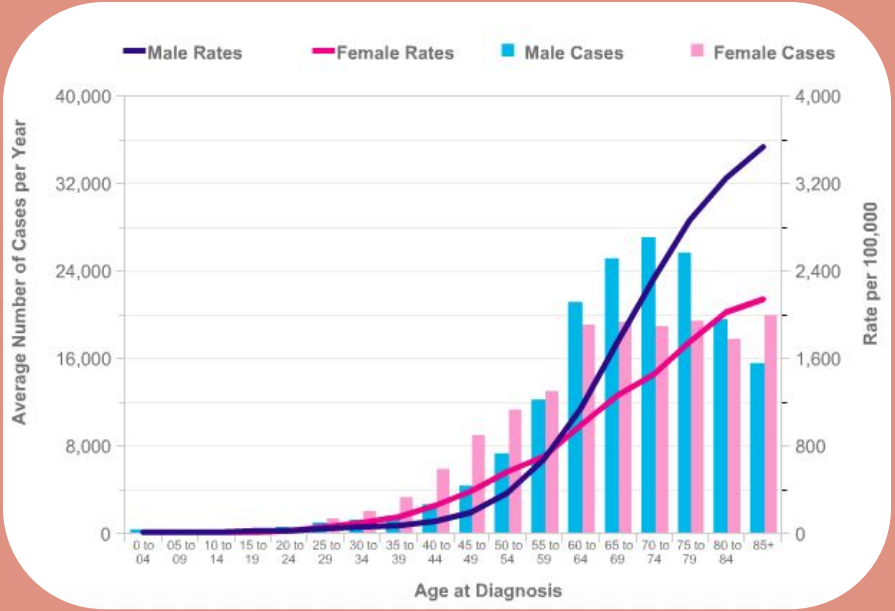


Figure 1 – Incidence Statistics for Cancers (excluding non-melanoma skin cancer) in the UK 2009-11. There is an exponential increase of incidence with age supporting the Knudson Hypothesis [9].

But..

95 %

Although the mortality is significant, **when detected early**, melanoma survival exceeds 95%

Pathology & Treatments

02

How to prevent from skin cancer?

PATHOLOGY

What is a skin cancer?

Due to the development of abnormal cells that have the ability to invade or spread to other parts of the body

Skin cancer classification

Skin cancers are of two distinct types: nonmelanoma and melanoma.

Risk factors

More than 90% of cases are caused by exposure to ultraviolet radiation from the Sun.

Genetic factors

« [Skin cancer] involves some degree of inherited risk. »

Dr. Kelly Cha
(Michigan Medicine and dermatologist)

SIGNS AND SYMPTOMS

Basal-cell skin cancer

Usually presents as a raised, smooth, pearly bump on the sun-exposed skin.

Melanoma

Warning signs of malignant melanoma include change in the size, shape, color or elevation of a mole.

Squamous-cell skin cancer

Commonly a red, scaling, thickened patch on sun-exposed skin.

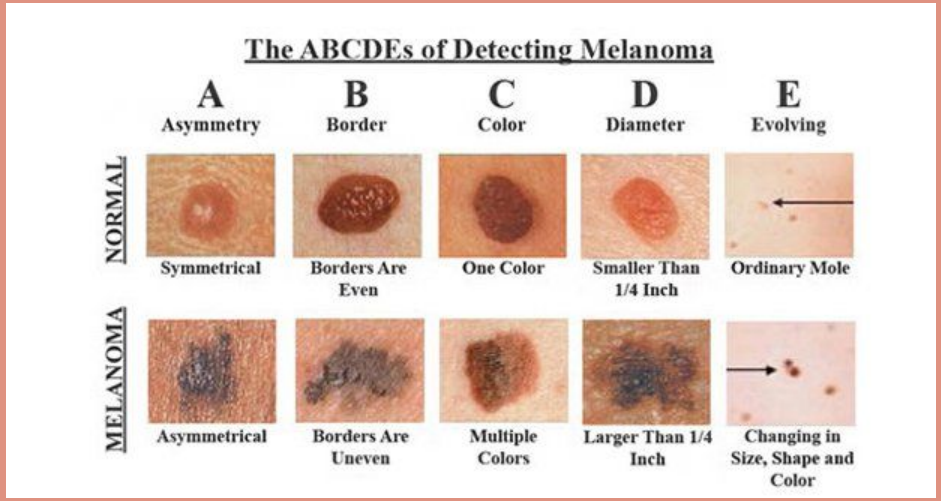
DIAGNOSIS

Biopsy

extraction of sample cells or tissues for examination to determine the presence or extent of a disease

Histopathology

microscopic examination of tissue in order to study the manifestations of disease



TREATMENT

depend on the specific type of cancer

Radiotherapy

Uses high-powered energy beams to kill cancer cells

Chemotherapy

In chemotherapy, drugs are used to kill cancer cells.

Immunotherapy

Uses your body's immune system to kill cancer cells.

Excisional surgery

This type of treatment may be appropriate for any type of skin cancer.

Mohs surgery

Removing the skin growth examining each layer under the microscope

Freezing

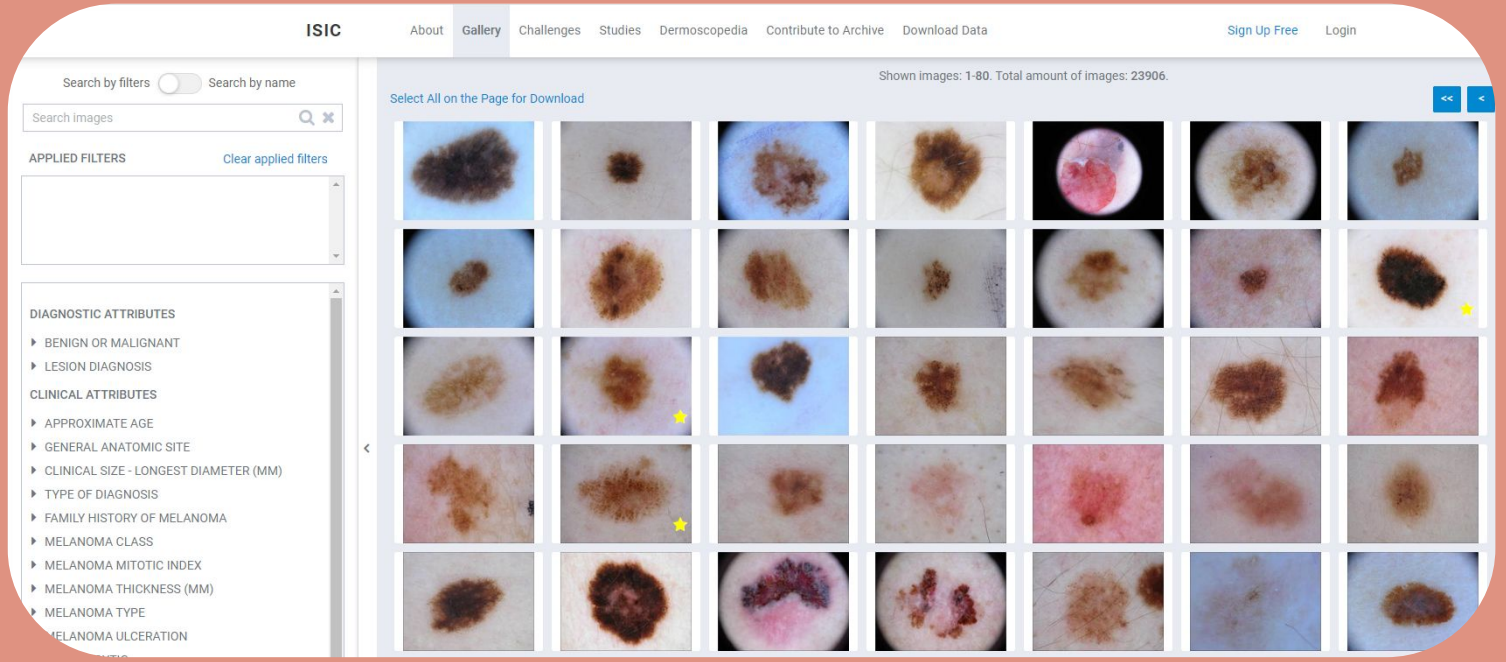
Destroy actinic keratoses and some small, early skin cancers by freezing them with liquid nitrogen (cryosurgery).

Our solution & challengers

03

The mobile app : mole scanner

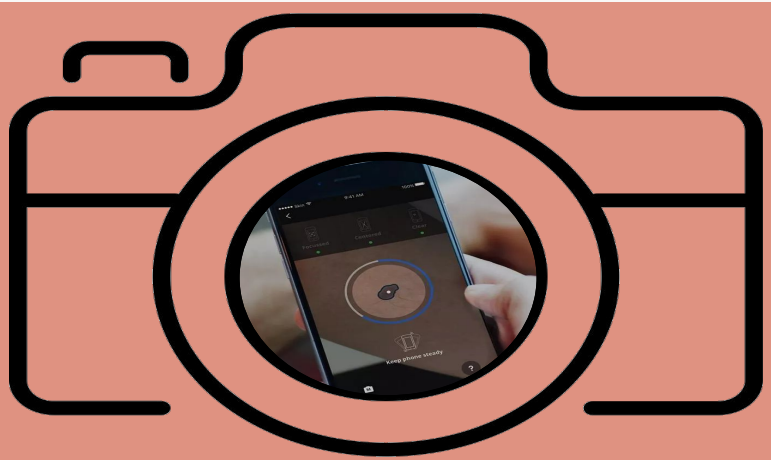
The data

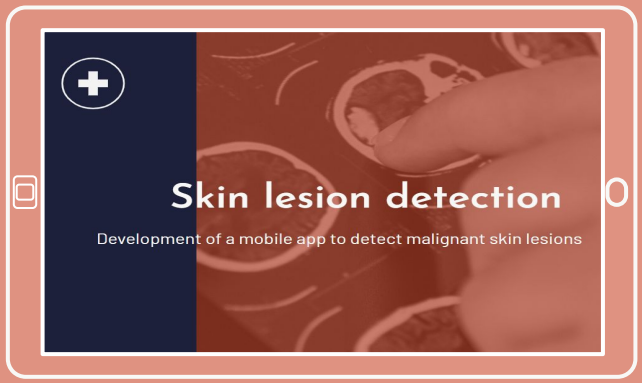


The ISIC melanoma project gathers :

- 23906 pictures
- International community of dermatologists that collaborate

Our solution





This app will **detect skin lesion** and will recommend the patient to consult the nearest dermatologist if it sees **abnormal** mole.

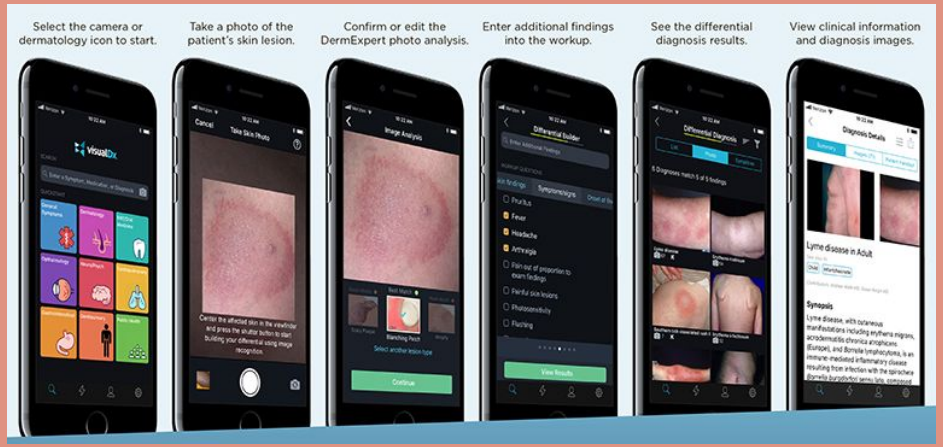
Geolocation helps to book the nearest doctor

Most advanced AI technology with high accuracy

Doctolib

Arrange appointment with a large choice of doctors

Challenger



UMSkinCheck

The University of Michigan launched a free app that guides users through a full home skin check exam.

Mole Mapper

The Oregon Health & Science University an app that allows users to take regular photos of their moles to facilitate change tracking over time.

Challenger

MoleScope

This is a high resolution camera compatible with many different smartphones. This camera uses high magnification and special lighting to take more detailed and better quality photos than other skin cancer apps.

Skin Vision

This app helps users identify high risk moles that require further testing. The app classes each photo as either high or low risk. SkinVision also provides advice on the next steps to take.

AWS Support

04

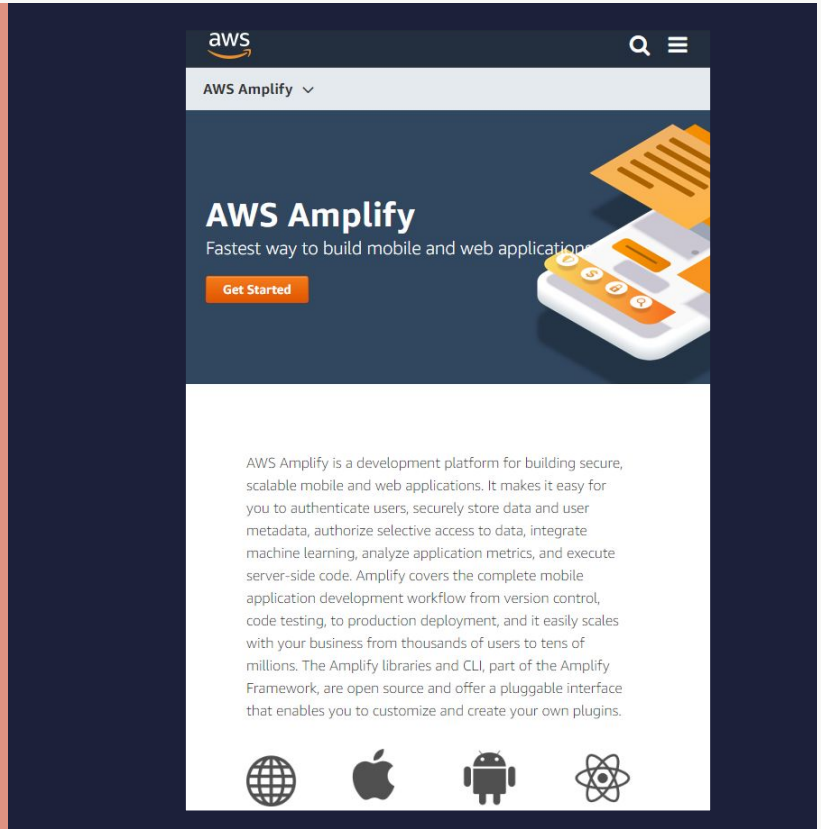
Which technology is going to be used ?

AWS Amplify

Add AI/ML capabilities to your app powered by cloud services

Easily achieve use cases like entities recognition in image..

Amplify comes with built-in support for Amazon S3



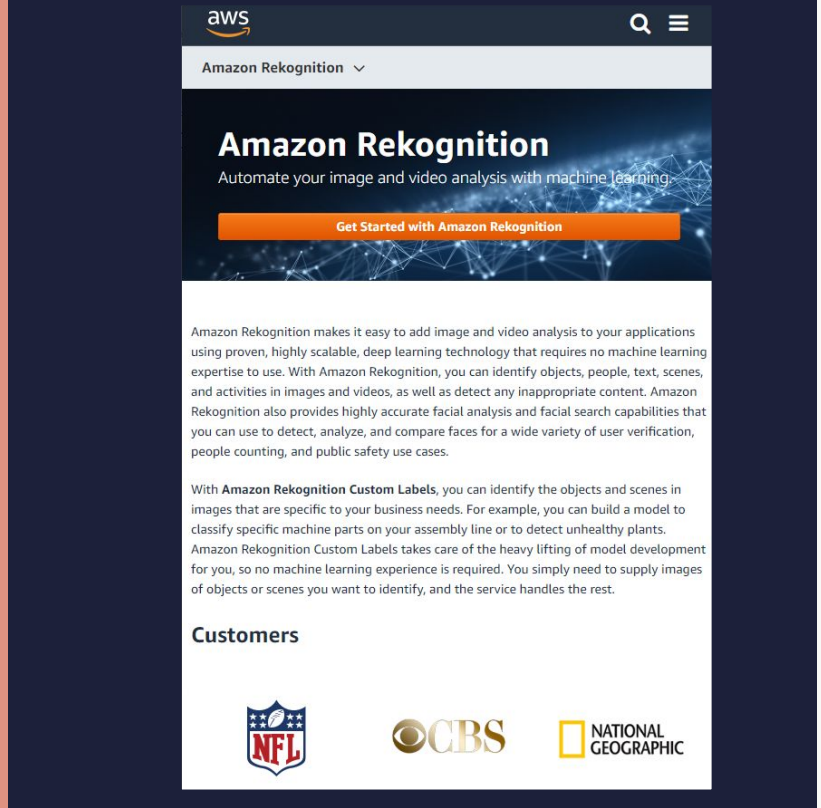
Amazon Rekognition

Rekognition integrates directly with Amazon S3

Already train on billions pictures and constantly improving

Easily Integrate Powerful Visual Analysis into your App using the API

AWS Toolkit directly available on Pycharm



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RESOURCES

- Modelling the Mutation Rate of The Flash in Context, Scott Brown & Danny Chandla, 2015 : https://www.researchgate.net/figure/Incidence-Statistics-for-Cancers-excluding-non-melanoma-skin-cancer-in-the-UK-2009-11_fig2_273905149
- The International Skin Imaging Collaboration : https://isic-archive.com/
- Amazon Recognition : https://aws.amazon.com/rekognition/
- Amazon Amplify : https://aws.amazon.com/amplify/