أكاديمية سدايا
SDAIA Academy

ALZHEIMER

BY:

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AS PROJECT 5 SDAIA DATA SCIENCE BOOTCAMP(T5)

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BACKGROUND

Alzheimer's is a progressive disease, where dementia symptoms gradually worsen over a number of years. Image Processing plays an important role in the early detection of Alzheimer's disease so that patients can be prevented before irreversible changes occur in the brain.

Problem statement

In this study, we have the problem of Alzheimer's disease. We built a model that detects Alzheimer's disease and its progression by inserting an x-ray.

METHODOLOGY

1. Data Description
2. Transfer learning
3. Results
4. Deployment

Data Description

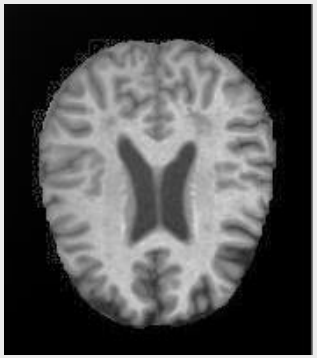
Resource

Kaggle with a total of 6400 images

Split dataset

Train = 4897 , Validation = 864 , Test = 639

4 class of Images



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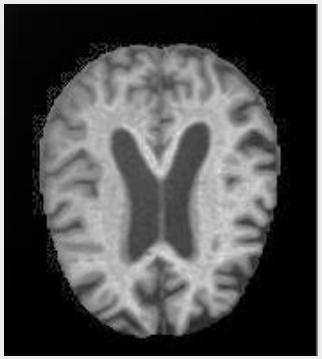

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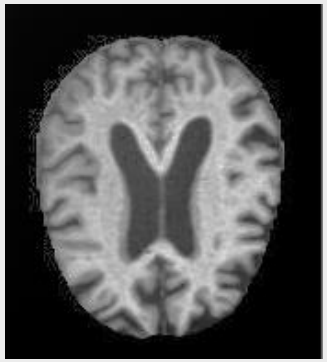
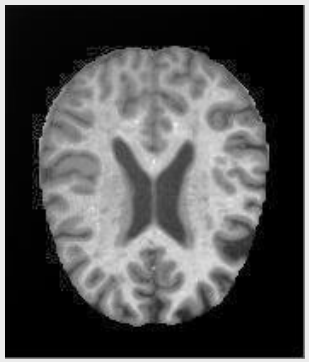


MODERATEDEMENTED



VERYMILDDEMENTED

Transfer learning

- mobilenet_v2
- VGG19
- VGG16
- InceptionV3

Results

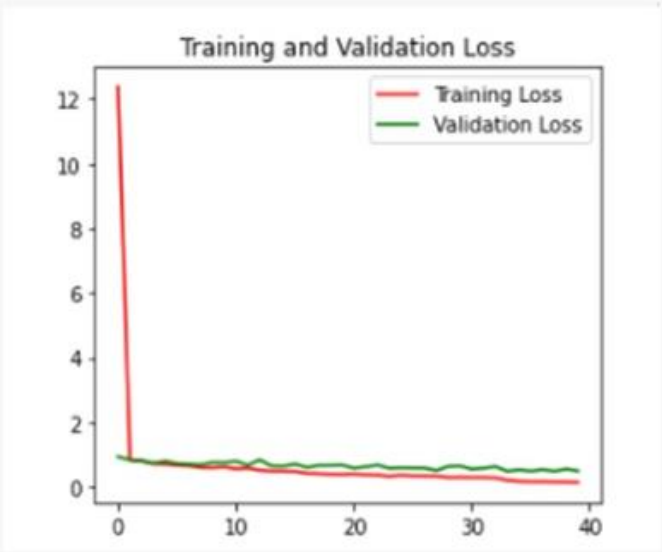
	Train	Validation
Mobilenet_v2	0.95	0.82
VGG19	0.81	0.77
VGG16	0.89	0.84
InceptionV3	0.86	0.76

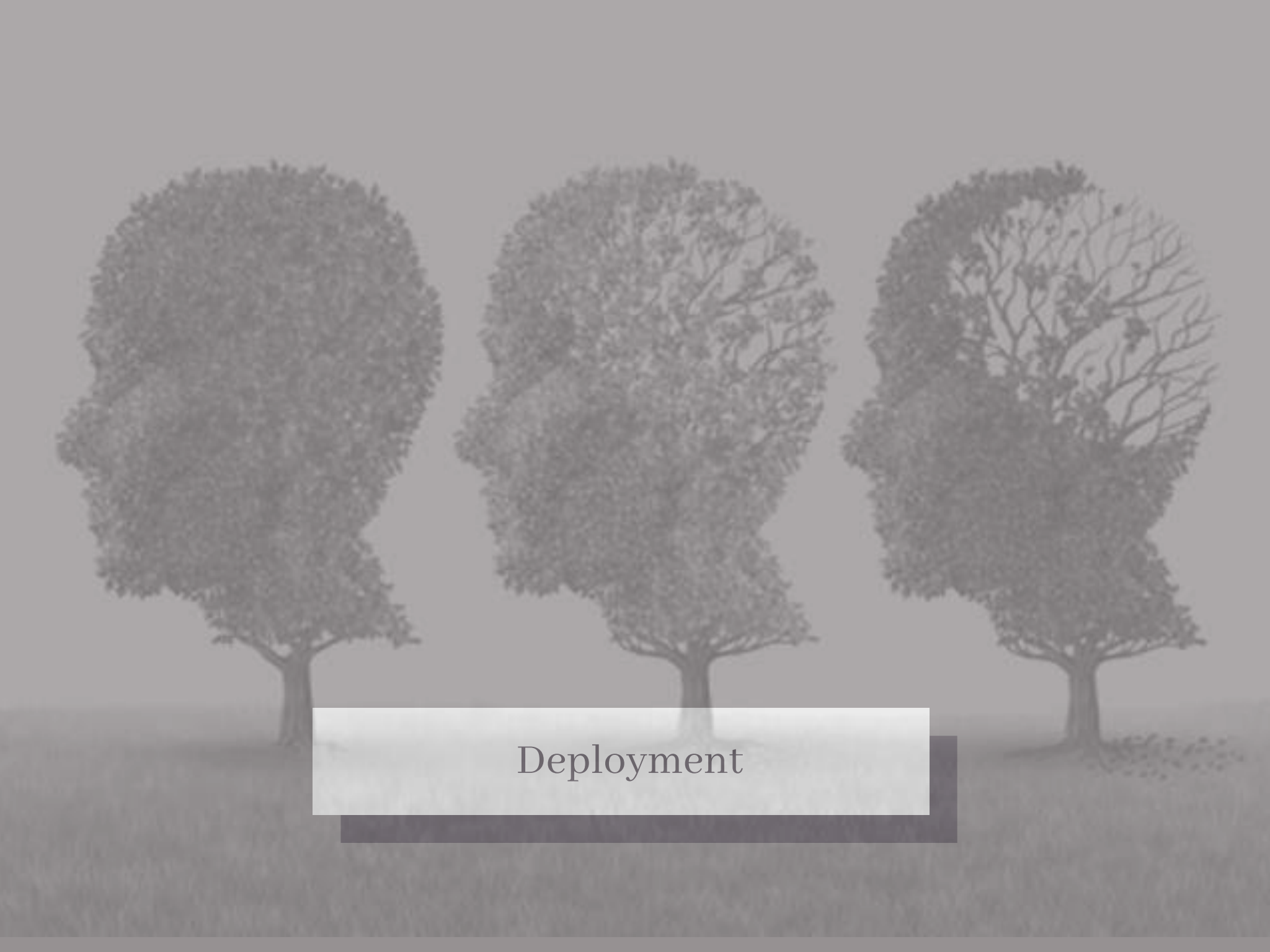
The best model

Mobilenet_v2

Accuracy score :

- Training : 0.95
- Validation : 0.82
- Test : 0.83





Deployment

Tools


matplotlib


scikit
learn


Flask
web development,
one drop at a time


TensorFlow


K

Future work

- Improve the model and website.
- present the project proposal the model for saudi alzheimer's disease association.

CONCLUSION

Applications of automated classification techniques using machine learning (ML) and artificial intelligence (AI) are constantly becoming more accurate than manual classification.
So we proposed a system that detects and classifies alzheimer's using deep learning algorithms.

THANKS..