



Brain Tumor MRI Classifier

Deep learning convolutional neural network (CNN) project



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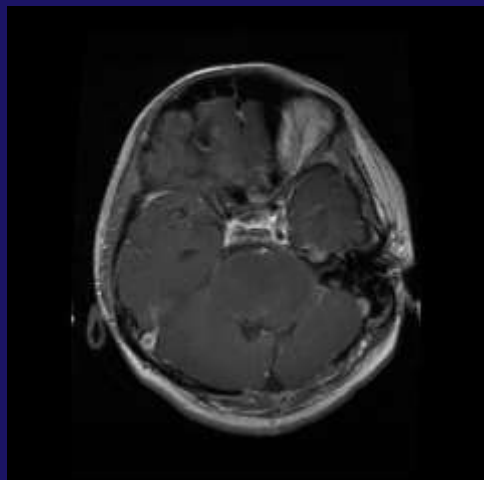
AIM



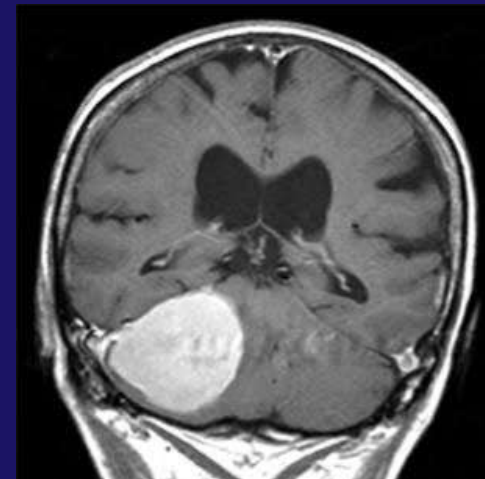
PURPOSE OF THE PROJECT

The model that we train takes a brain MRI image as input and gives an output to which class this image belongs to. These classes are; glioma, meningioma, pituitary, and no tumor. We have used supervised learning and deep learning CNN (Convolutional neural network).

EXAMPLES OF THE CLASSES



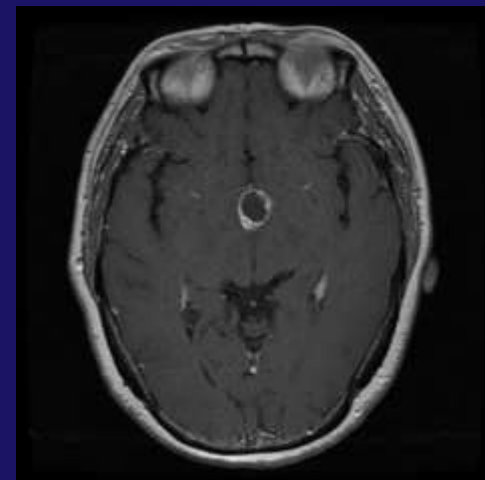
Glioma



Meningioma

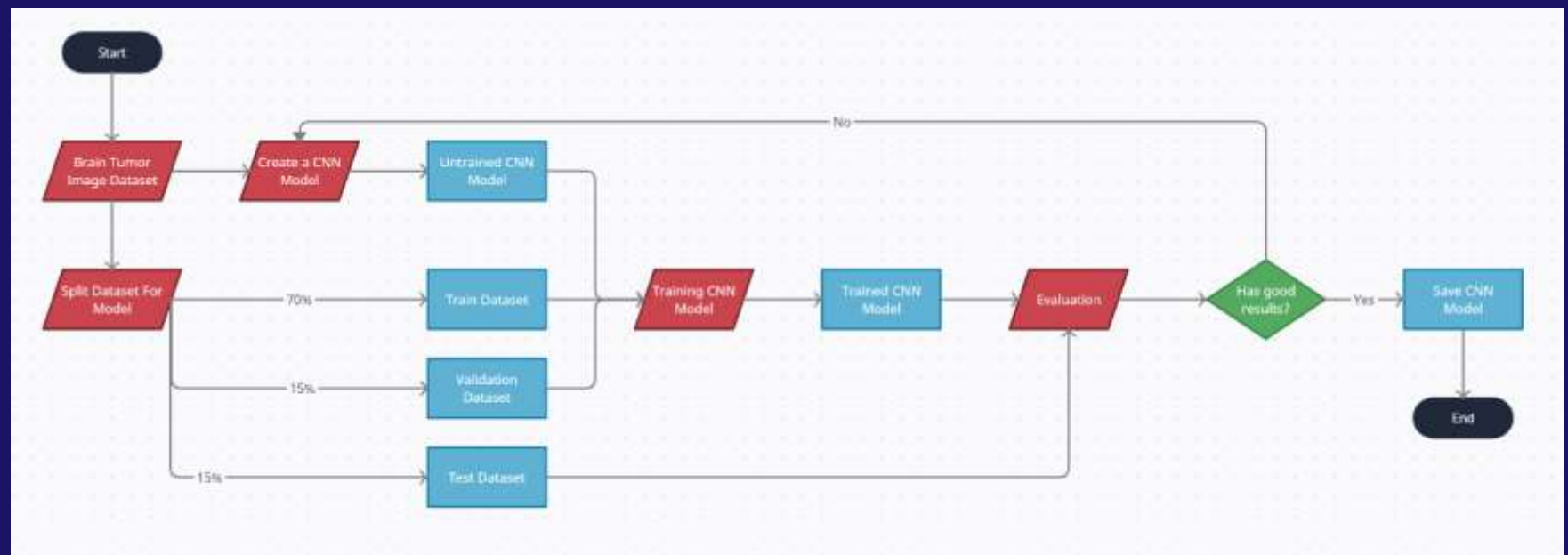


No Tumor



Pituitary

FLOWCHART





02

DATASET

7023

Number of the instances

1621

Glioma

1645

Meningioma

2000

No Tumor

1757

Pituitary

DATASET

2500

2000

1500

1000

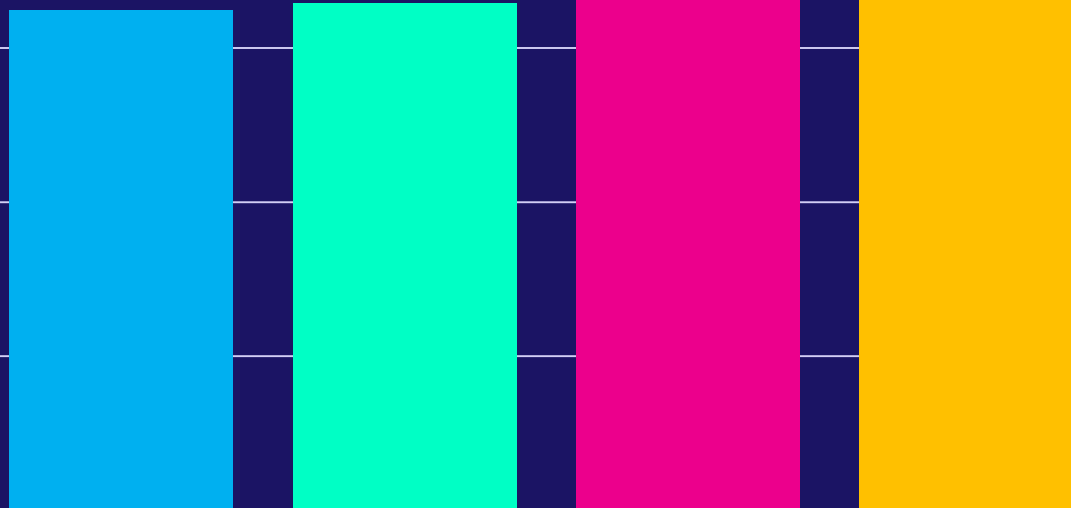
500

0

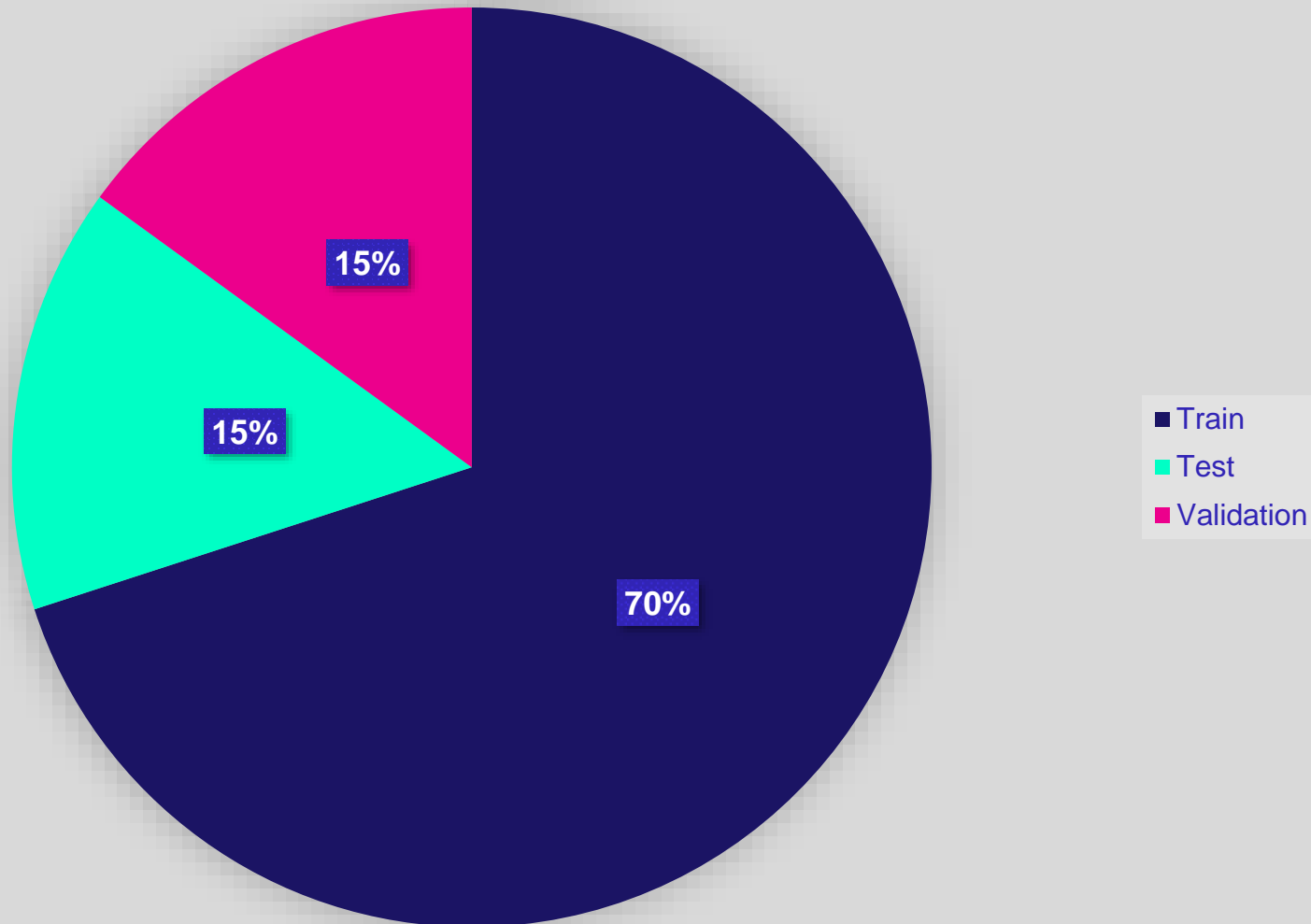
Numbers of the instances

■ Glioma ■ Meningioma ■ No Tumor ■ Pituitary

Numbers of the instances



SPLITTED DATASET





03

PREPROCESS AND MODELS



</>

CODE



04

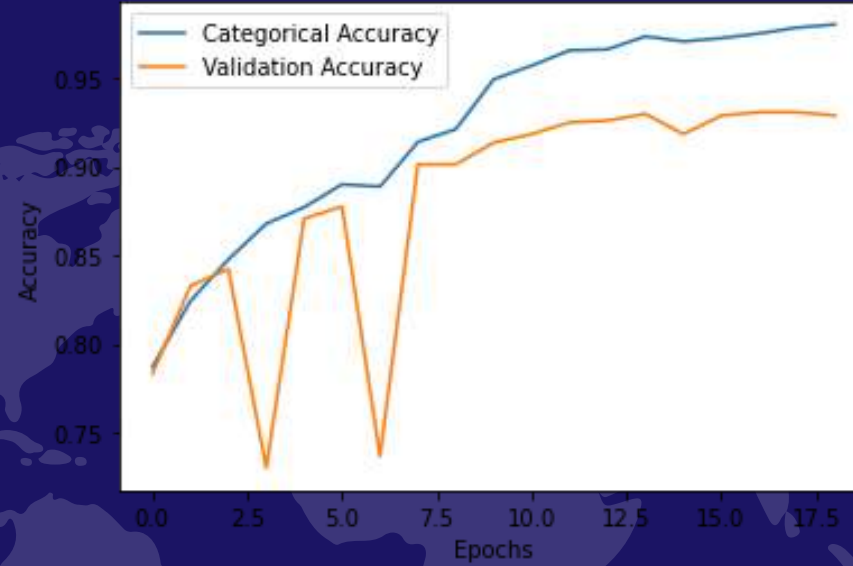
SELECTING THE MODEL



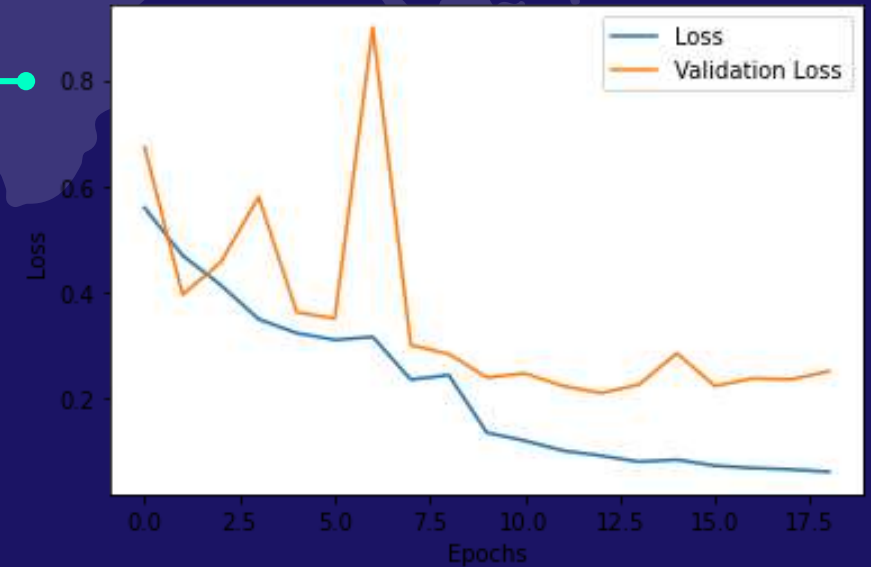
1st Training

MODEL 1

Accuracy

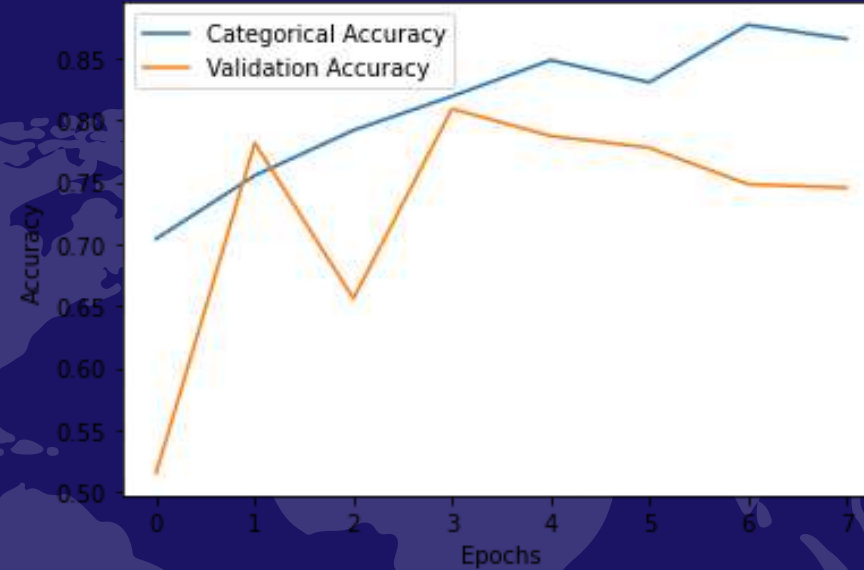


Loss

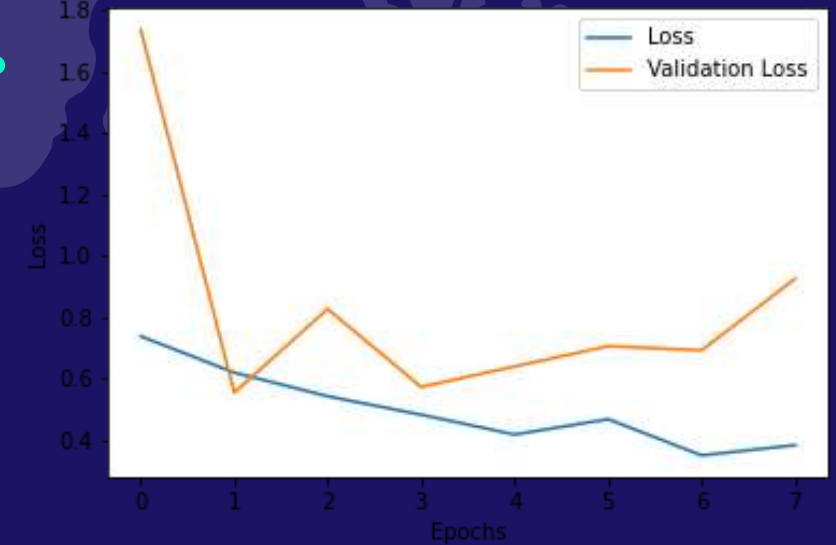


MODEL 2

Accuracy

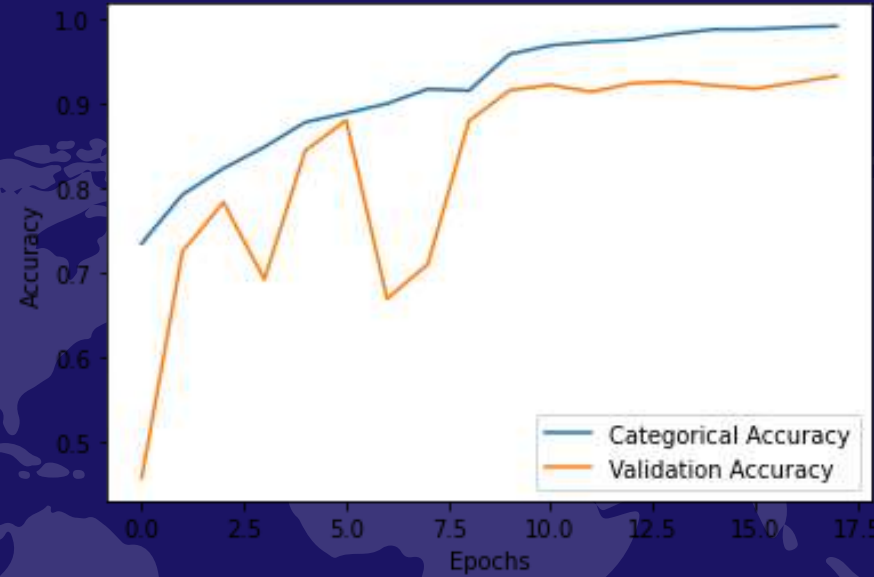


Loss

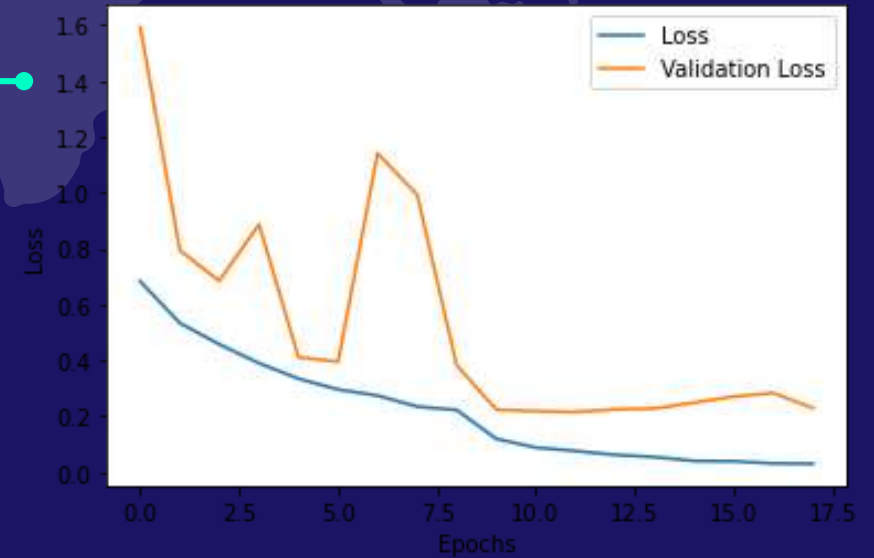


MODEL 3

Accuracy



Loss

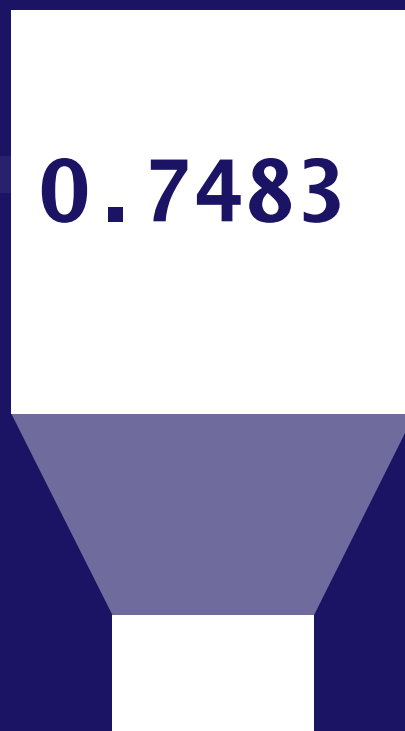


TEST RESULTS

MODEL 1



MODEL 2



MODEL 3



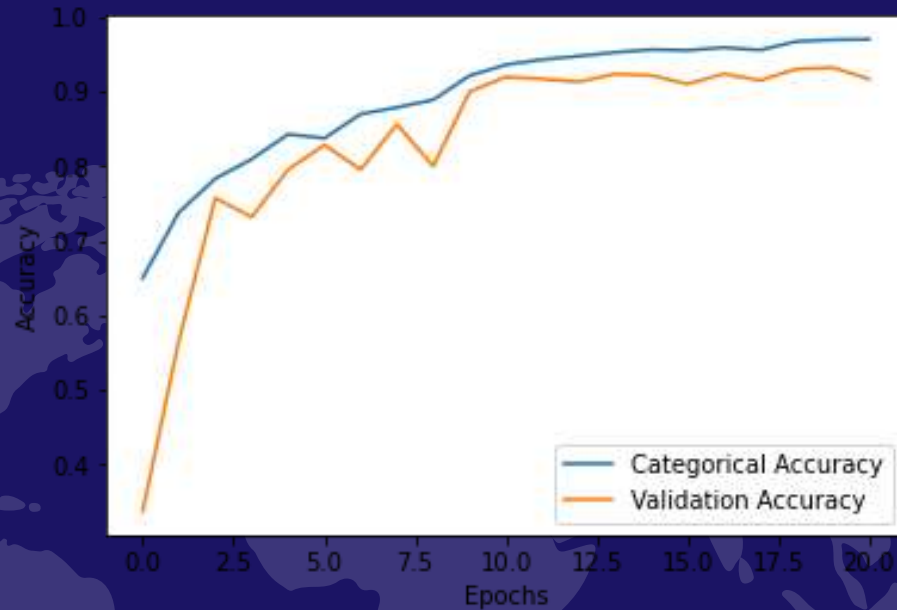


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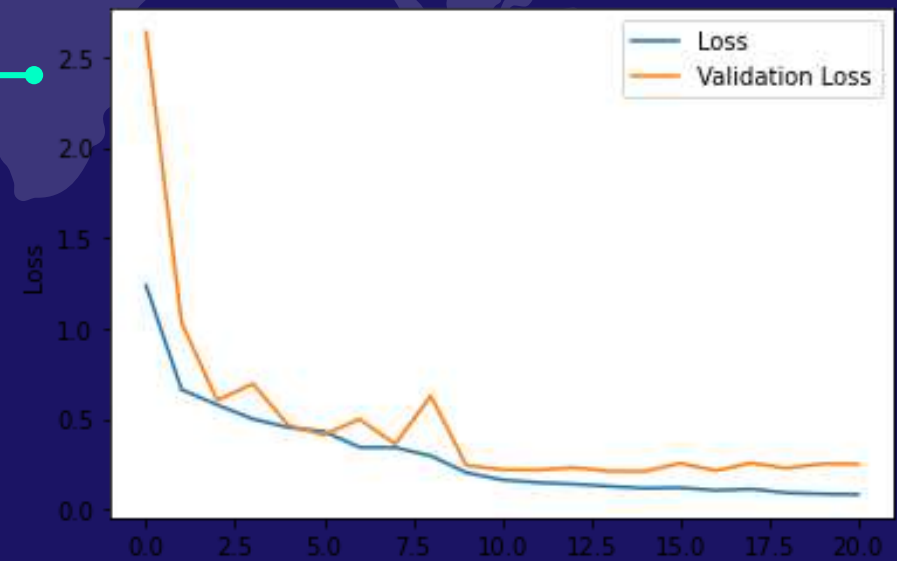
2nd Training

MODEL 1

Accuracy

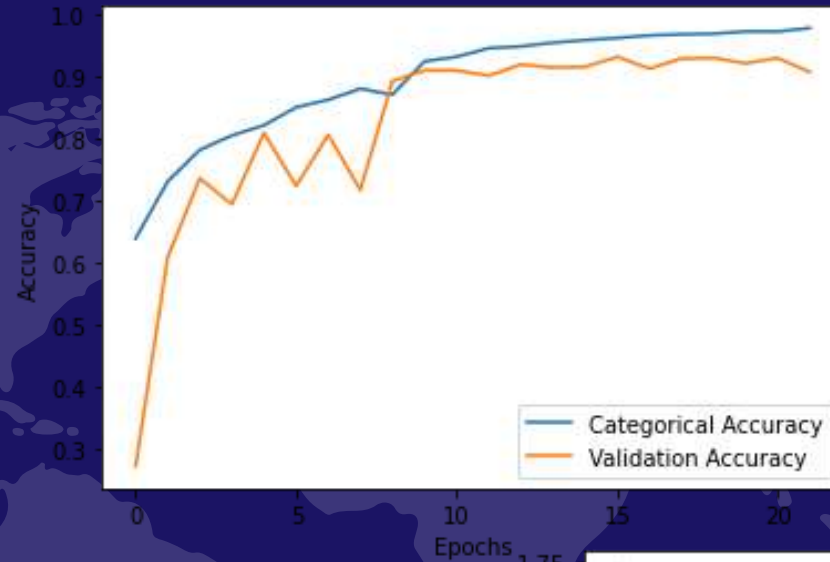


Loss

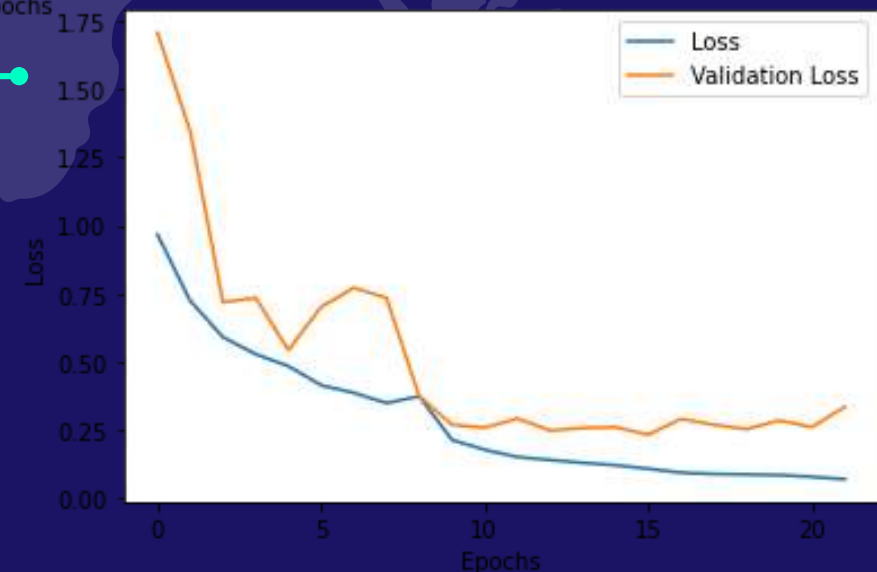


MODEL 2

Accuracy

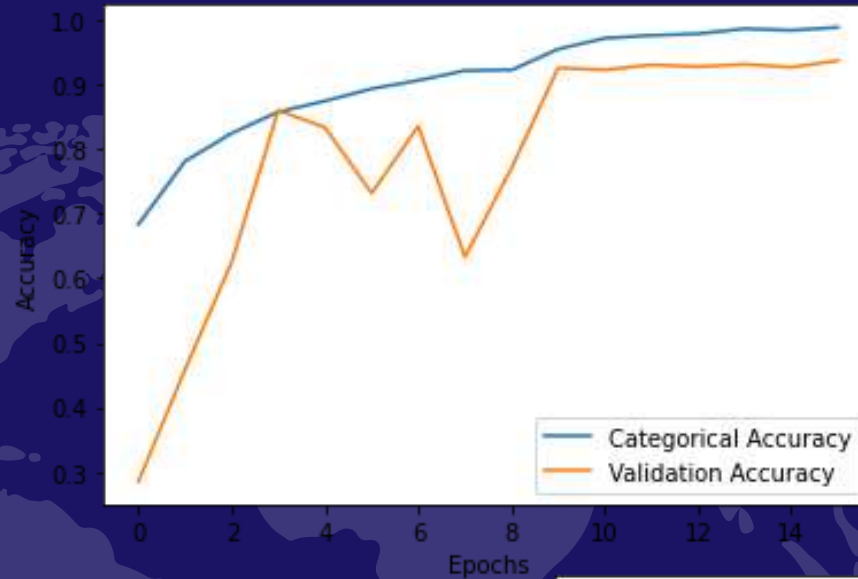


Loss

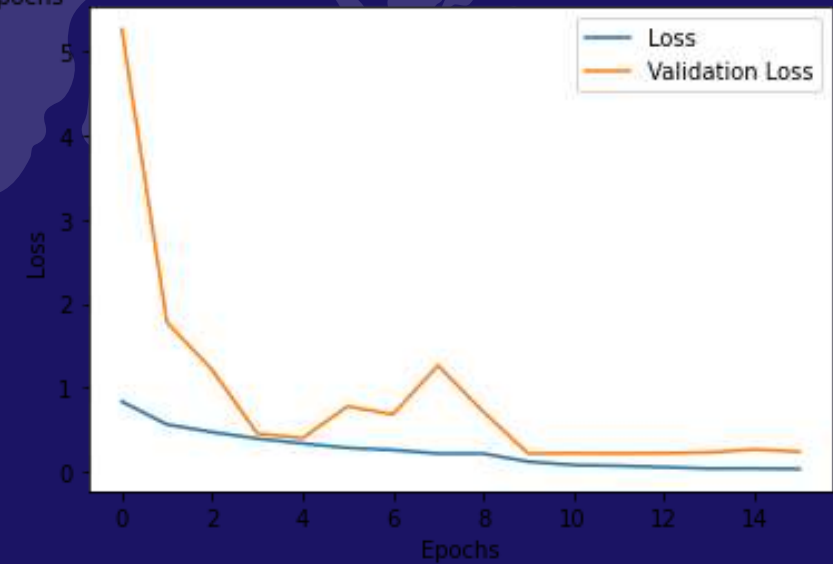


MODEL 3

Accuracy



Loss

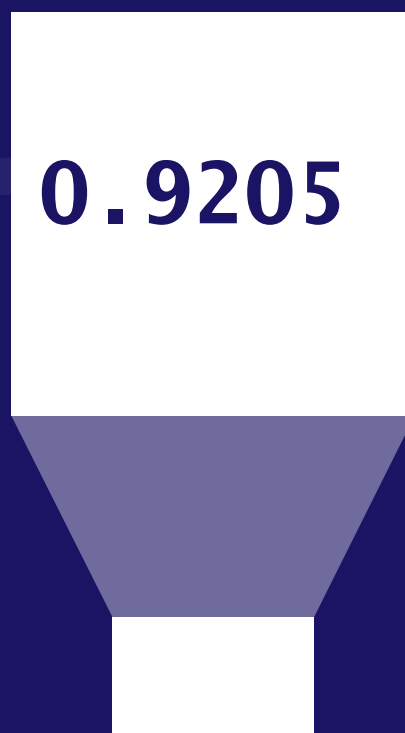


TEST RESULTS

MODEL 1



MODEL 2



MODEL 3



THANKS!

Recep Batuhan Dikmen
İrem Akanoğlu

