Breast Cancer Detection & Segmentation

GROUP NO. 3

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OUTLINE

- Problem Statement
- Comments received during external Viva
- Project Block Diagram
- Implementations/Experimental Results
- Plan of Remaining Work & Timeline
- References

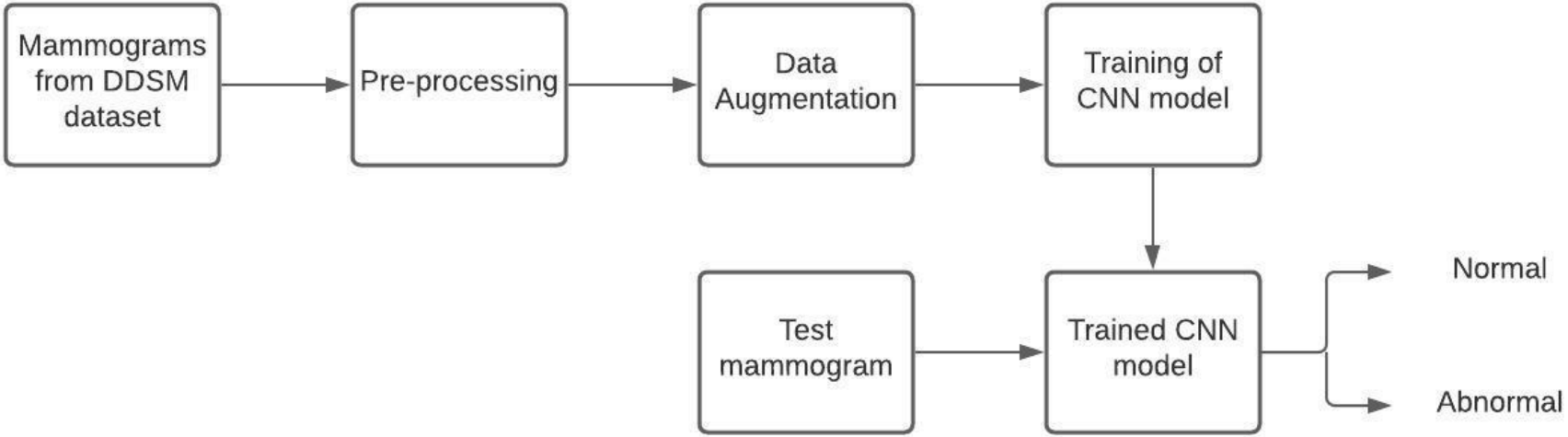
PROBLEM STATEMENT

To develop an automated detection and segmentation of tumours using mammogram in Cranial-Caudal and Medial-lateral oblique (CC and MLO) views using Deep Learning Techniques.

COMMENTS RECEIVED DURING EXTERNAL VIVA

- We were asked to focus more on the fundamentals of the topic.
- The basic parameters of deep learning and architecture models?
- How does the project help the radiologists?

PROJECT BLOCK DIAGRAM - DETECTION



IMPLEMENTATION RESULTS

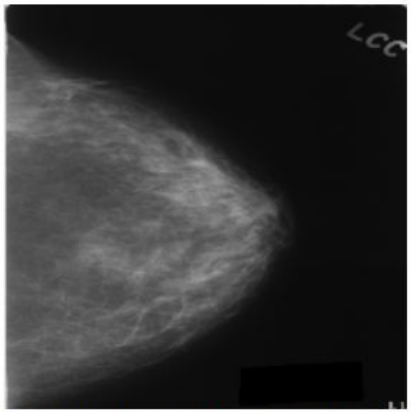
Classification Results:

Name of the Model	Number of Layers	Validation Accuracy (%)	Validation loss (%)	Parameters (Million)
AlexNet	8	61.18	51.2	49
EfficientNet	17	82.72	41.7	5.3
VGG16	16	86.42	47.8	138
GoogleNet	22	91.36	48.1	22.2

CLASSIFICATION RESULTS

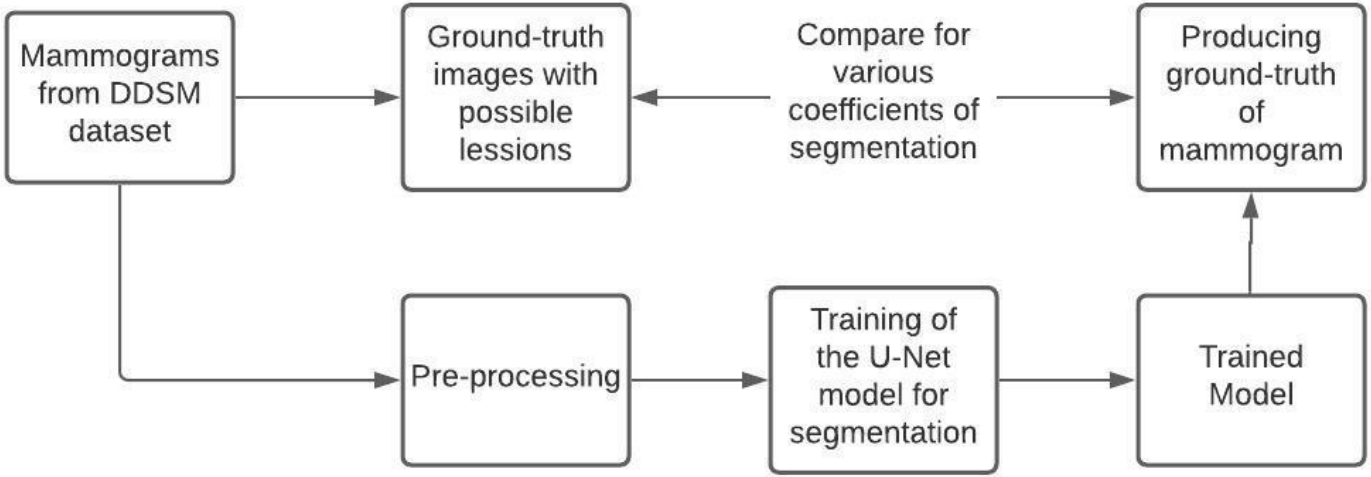
```
pred = Predict(
    path='pretrained_model/AbnormalNormal.h5',  # pred_model/DogCat.h5 # pretrained_
    file='/content/drive/MyDrive/Dataset/Test_set/Abnormal/C_0384_1.LEFT_CC.png'  )

pred.load_model()
pred.makepredictions()
```

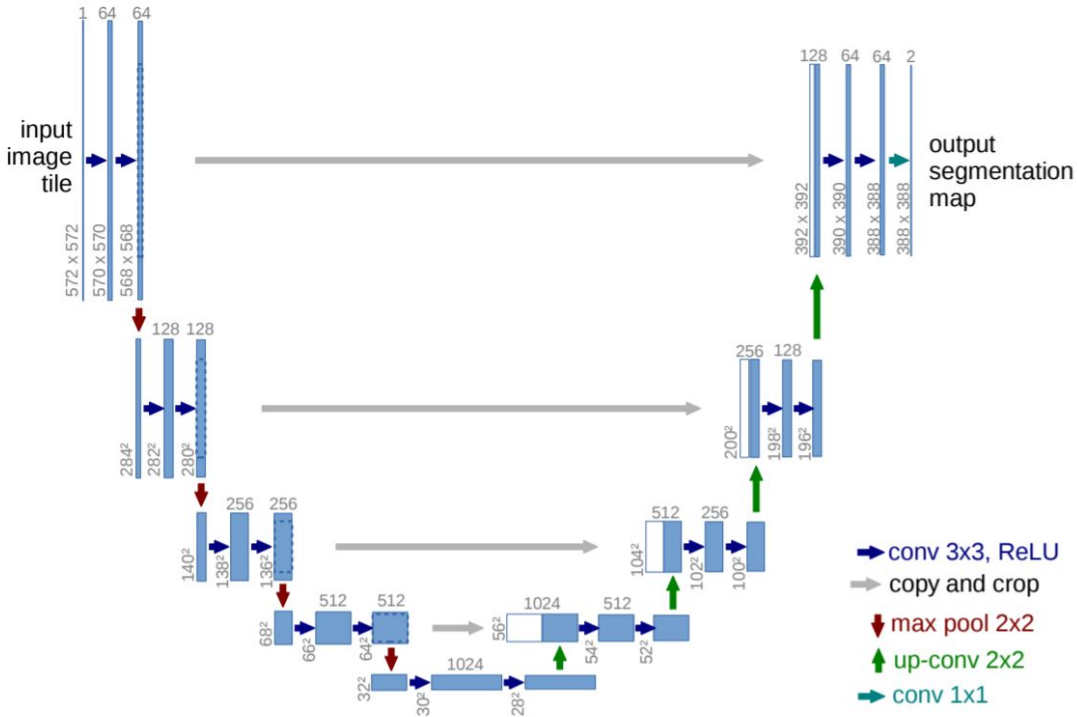



```
File loaded and reshaped. The new shape is  (1, 224, 224, 3)
Start predicting...
Prediction completed: this is a Abnormal
```

PROJECT BLOCK DIAGRAM - SEGMENTATION



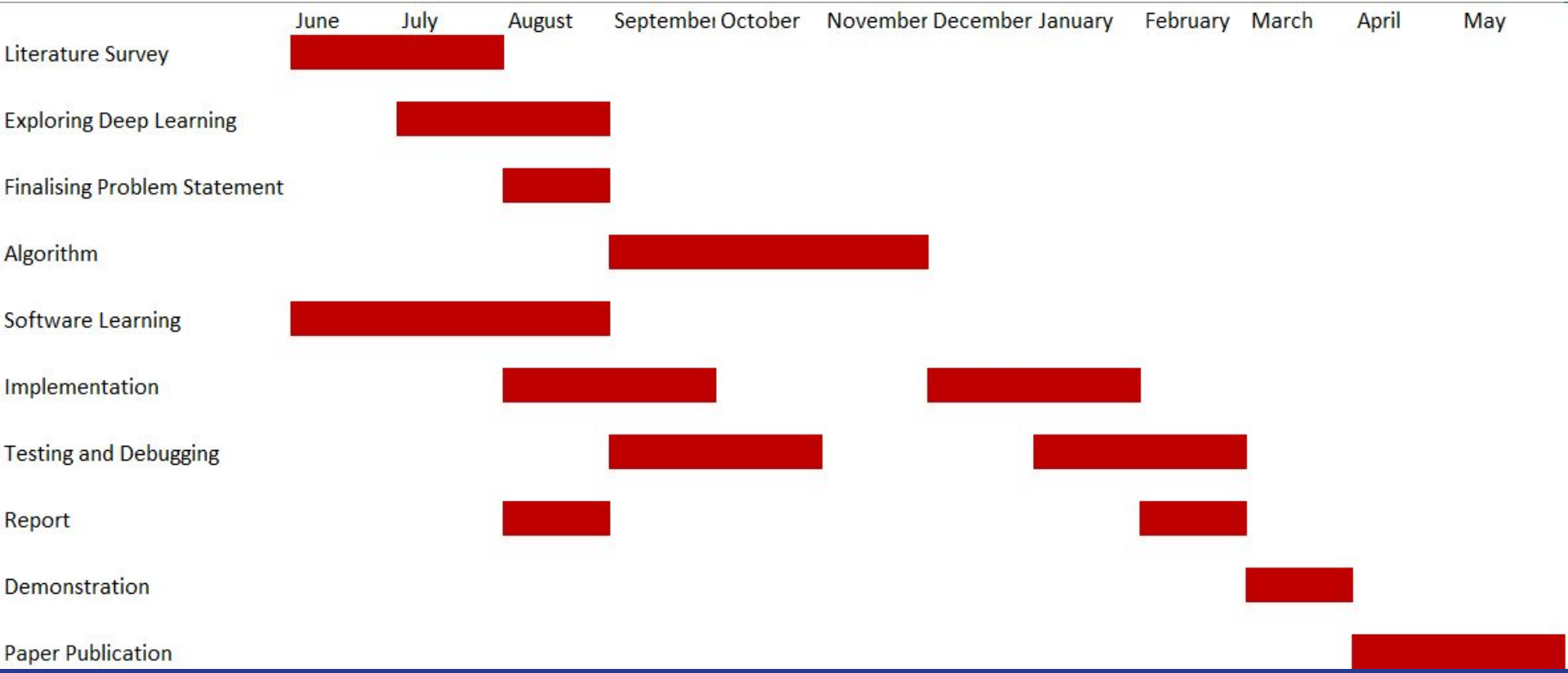
U-NET ARCHITECTURE



INFORMATION ON PENDING WORK

- Work on the Segmentation model to achieve correct results.
- Complete writing the final report for the project.

TIMELINE OF THE PROJECT



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