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IMPLEMENTATION OF NEURAL NETWORK ON LOW RESOURCE ENVIRONMENT

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ABSTRACT

Calligo Technologies is a category defining Data Science and Machine Learning software and services company focused on helping organizations translate the big promise of Big

Data and Machine Learning technologies into quantifiable business impact.

The company aim is to create competitive advantage by exploiting AI-accelerated knowledge to answer complex questions, increase revenue and more efficiently run the

health care business.

For implementation of Neural Network on low resource environment work of Calligo Technologies works on TensorFlow and Larq framework to design and implement the

deep learning model.

My task is to develop,

1. A TensorFlow image classification model which runs on a low resource environment

reducing cost and compute time to identify severity of diabetic-retinopathy in which 5 classes have been named based on lesions in retinal fundus images of a diabetic patient.

2. A TensorFlow object detection model to detect number of lesion from a fundus image of a diabetic patient to determine the severity and to produce part wise result to

conclude severity in which 5 different types of lesions have been categorized.

Both models are developed and tested and met the required specifications within the period of 4 months.