

Machine learning

CSL7020

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MTECH - 2ND SEM

Fine-tuning a pre-trained network like ResNet50 involves adapting the network to a new task by retraining only a subset of the layers while keeping the pre-trained weights of the other layers fixed. This can help speed up the training process and improve the accuracy of the model, especially when the new task is related to the original task that the pre-trained network was trained on

General outline of how to fine-tune a pre-trained ResNet50 network in TensorFlow.

1. Load the pre-trained ResNet50 model and remove the last layer, which is the output layer for the original task.
2. Add a new output layer that matches the number of classes for your new task, and freeze the weights of all layers except for the new output layer.
3. Compile the model with an appropriate loss function, optimizer, and metrics.
4. Train the model on your dataset, using data augmentation and transfer learning to improve performance.
5. Evaluate the model on test dataset.
6. This is just a general outline of the steps involved in fine-tuning a pre-trained ResNet50 network in TensorFlow.
7. The specific details of your implementation may vary depending on dataset