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Transfer learning to improve the performance of deep learning models

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Abstract

Learning or training in Neural Networks means that these networks learn the optimal weights of their parameters over multiple iterations through input data. At each successive layer, a deep neural network learns the increasingly specific features of the input data. Transfer learning in deep learning refers to the technique wherein instead of training all layers of a deep neural network from scratch, we take the features previously learned by an existing deep neural network for a different but related task and transfer them to current neural network as the weights of its parameters. Pre-trained networks on a large datasets, like the ImageNet, capture universal features like curves and edges in early layers. These features often are useful and relevant to most of the classification problems. In this talk, we will see how transfer learning helps us to improve the accuracy of classification tasks when we have very small data set available for our particular problem. This is huge potential in medical image analysis area.

Biography

Nimrita Koul is currently working as an Assistant Professor in the department of Computer Science and Machine Learning at REVA University.

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