



THE UNIVERSITY OF  
CHICAGO

Department of Statistics

MASTER'S THESIS PRESENTATION

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Hierarchical Multichannel Multi-layer Convolutional Attention  
Networks For Document Classification

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### ABSTRACT

Text classification is one of the fundamental tasks in Natural Language Processing. Recent work has demonstrated that self-attention mechanisms can be very useful in these tasks. They combine self-attention mechanism with convolutional neural network into a hierarchical structure to increase training speed without sacrificing model accuracy. We suggest replacing the convolutional attention layer with multi-layer convolutional block to extract features more efficiently, and still applying a hierarchical structure to create a new document classification model that is both highly accurate and even faster to train – we name our method Hierarchical Multichannel Multi-Layer Convolutional Attention Networks. We demonstrate the effectiveness and accuracy of our model by comparing our model with other state-of-the-art on several classification tasks. The results show that our model has similar accuracy to theirs and it spends much less time to train.