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CS 259: Final Project
Tensor Networks for Machine Learning

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Abstract

For our project we chose to explore the methods of the Google X paper 'Tensor Networks for Machine Learning' by Jack Hidary et al [2]. Here, the authors explore the use of tensor networks to improve the training performance of classifier neural networks. This is done by using tensor networks to compress the weights of the neural network, which reduces the number of parameters that need to be trained. Representing the weights in

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1.1 Matrix Product States

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References

[1] Stavros Efthymiou, Jack Hidary, and Stefan Leichenauer. Tensornetwork for machine learning, 2019.

[2] Chase Roberts, Ashley Milsted, Martin Ganahl, Adam Zalcman, Bruce Fontaine, Yijian Zou, Jack Hidary, Guifre Vidal, and Stefan Leichenauer. Tensornetwork: A library for physics and machine learning, 2019.