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Training Neural Networks on Embedded Devices

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Abstract

There is great potential in enabling neural network applications in embedded devices and an important step in that is to allow for these devices to perform the training of the neural network on board the device. Neural network inference is a popular and well-supported functionality on these platforms however neural network training still has ways to go. In this project we take a closer look at this step and try to compare the performance capabilities of popular machine learning frameworks with straight forward implementation approaches. This report also contains a discussion on the nature of implementing neural network applications on top the fragmented embedded ecosystem.

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