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# "IMPLEMENTATION OF PARSER FOR TENSORFLOW OPERATIONS ON SAMSUNG NEURAL FRAMEWORK"

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## ABSTRACT

The global race for artificial intelligence (AI) based products is getting intense and the many businesses rely completely on it. A large number of applications in the field of gaming, automation, and utilities depend upon AI . There has been a significant rise of AI in smartphones, and it is not only limited to applications like virtual assistants. Neural network models can be implemented using various frameworks like Tensorflow, Tensorflow Lite, Caffe, etc. Each of these frameworks have its unique way of internal representation. These neural network models are implemented using different operators. Each operator has its own parser and kernel. One of the most important operators is the AddN operator, which adds n input elements and gives a single output. A standardized representation is desired because the method of representing a computational graph in each framework is different. ARM NN SDK converts the computation graph to its internal representation, which is inferred by the Arm Mali GPUs and Cortex A CPUs with the help of the compute library. This standardised representation for various AI frameworks also enables you to choose between different runtimes. Adding different operators to Arm NN, makes it easy for the developers and data scientists to implement models for edge devices. It was found that using GPU and specialised hardware for optimization reduces latency. Developers can directly use the tried and tested pretrained models using the Samsung Neural SDK.