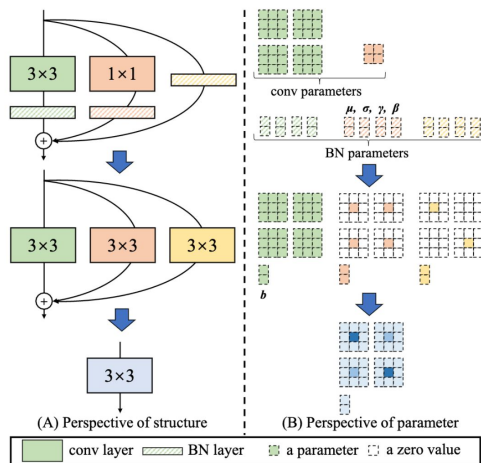


RepMAF: When Re-parameterization Meets Multi-scale Attention

Main Contribution: RepMAF - a building block for feature extraction networks

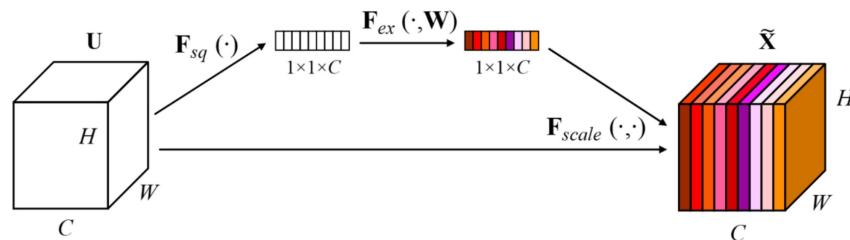
Related Works:



(RepVGG, CVPR 2021)

Structural Re-parameterization

$$\text{conv}_{3 \times 3}(x, W') = \text{BN}(\text{conv}_{3 \times 3}(x, W_1)) + \text{BN}(\text{conv}_{1 \times 1}(x, W_2)) + \text{BN}(x)$$



(Squeeze-and-Excitation Networks, CVPR 2018)

Channel-wise Attention Block

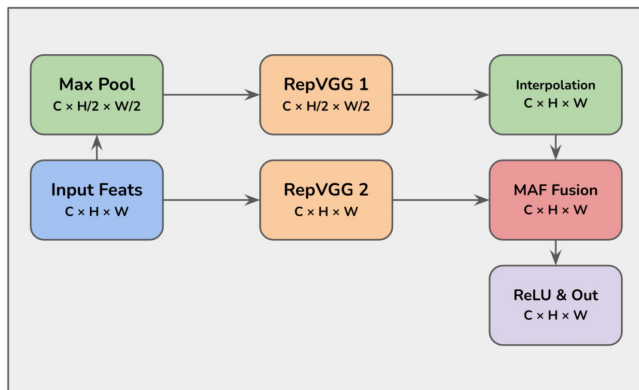
$$\text{SE}(x) = \text{Sigmoid}(\text{MLP}(\text{GlobalAvePool}(x))) * x$$

RepMAF: When Re-parameterization Meets Multi-scale Attention

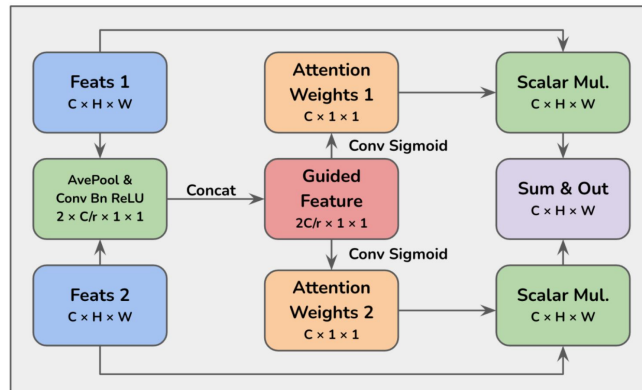
Novelty: Feature fusion via channel-wise attention

Other Properties: 1) Re-parameterizable; 2) Multi-scale branching.

Dataset: CIFAR-10; **Measures:** Classification Accuracy, Params, Inference Speed



RepMAF Block



Multi-scale Attention Fusion Block

$$X = W_1 X_1 + W_2 X_2$$