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(54) Title of the Invention: **Fusing sparse kernels to approximate a full kernel of a convolutional neural network**
Abstract Title: **Fusing sparse kernels to approximate a full kernel of a convolutional neural network**

(57) Techniques facilitating generation of a fused kernel that can approximate a full kernel of a convolutional neural network are provided. In one example, a computer-implemented method comprises determining a first pattern of samples of a first sample matrix and a second pattern of samples of a second sample matrix. The first sample matrix can be representative of a sparse kernel, and the second sample matrix can be representative of a complementary kernel. The first pattern and second pattern can be complementary to one another. The computer-implemented method also comprises generating a fused kernel based on a combination of features of the sparse kernel and features of the complementary kernel that are combined according to a fusing approach and training the fused kernel.

