VGG (Visual Geometry Group)

The VGG architecture revolutionized deep learning for computer vision by demonstrating the effectiveness of depth in convolutional neural networks (CNNs) while achieving high accuracy in image classification.

Key Innovations:

1. **Small 3 x 3 Convolution Filters:**
    - Stacked them deeper to capture complex features.
    - Effective Receptive Field (Preserving spatial context and reducing redundancy)
    - Increased efficiency in terms of computation
    - Reduced number of parameters
    - Introduced uniformity as the convolution layers had same kernel size (3x3) and max pooling layers (2x2)
2. **Increase in Depth (16-19 weight layers):**
    - Increased non linearity
    - Expanded receptive field
    - Better generalization
3. **Regularization Practices:**

    Set Standards for using dropout and augmentation in large CNN

Conclusion:

VGG's emphasis on depth and simplicity advanced CNN design, proving that deeper networks with small filters could learn richer features. While later models improved efficiency and accuracy.