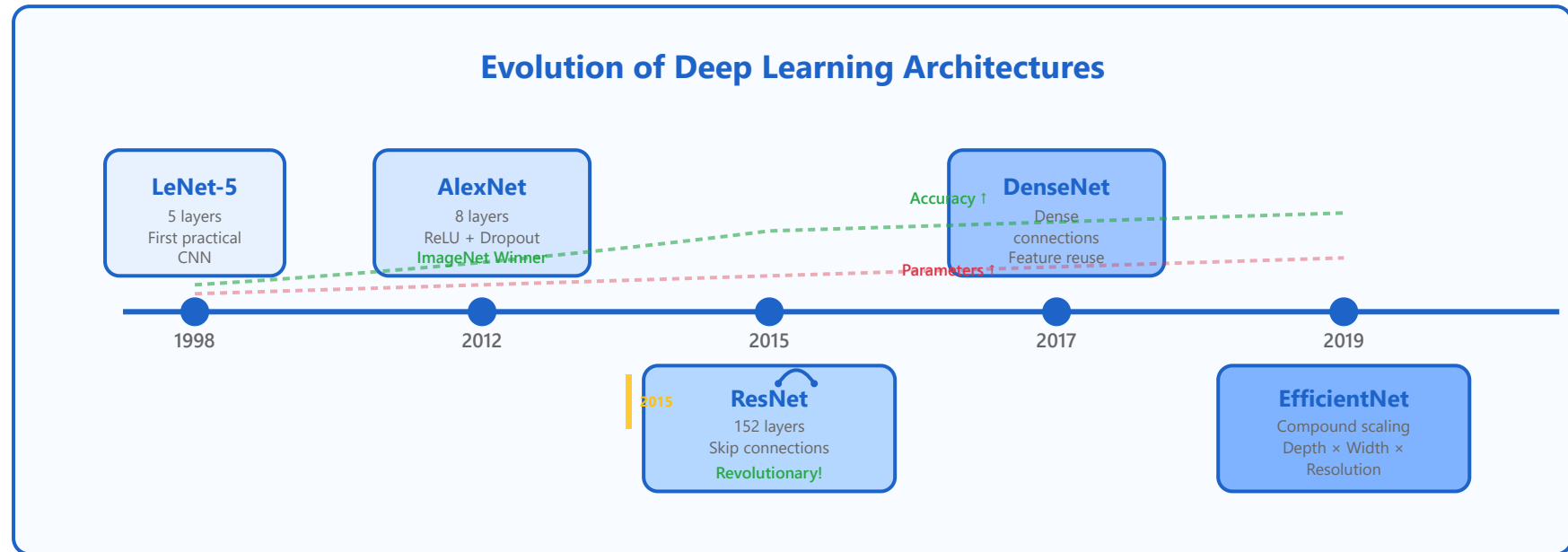


# CNN Architectures Evolution



## LeNet to AlexNet

Early pioneers (1998-2012): Basic convolution layers, introduced ReLU and dropout for deeper networks

## ResNet & Skip Connections

Revolutionary residual connections enable 100+ layer networks. Solves vanishing gradient problem

## DenseNet

Dense connections between all layers. Enhanced feature propagation and parameter efficiency

## EfficientNet

Compound scaling of depth, width, and resolution. Optimal accuracy-efficiency tradeoff

Modern Trend: **Neural Architecture Search (NAS)** - Automated discovery of optimal architectures for specific tasks

