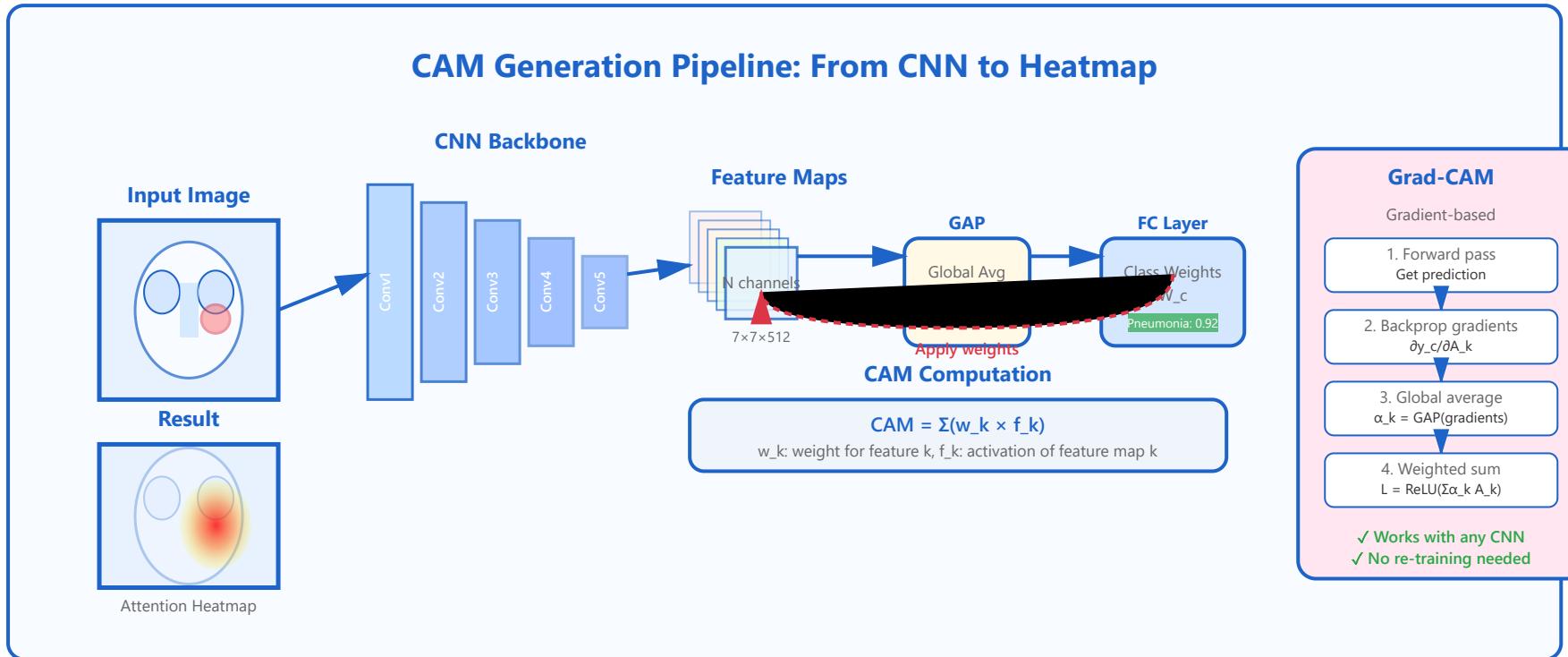


# Class Activation Maps (CAM)



## CAM Principles

Visualize important regions for classification. Linear combination of feature maps weighted by class weights

## Grad-CAM

Gradient-based localization. Works with any CNN architecture without modification

## Grad-CAM++

Improved weighted combination. Better localization for multiple objects and weak activations

## Score-CAM

Gradient-free approach using forward passes. More stable and cleaner visualizations

## **Clinical Interpretation**

Essential for model validation and trust building. Helps radiologists understand AI decisions