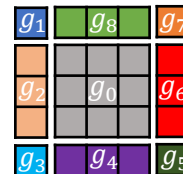


(a)

Different set of filters applied to each patch of the decomposed domain ($g_0 \dots g_8$)



(c)

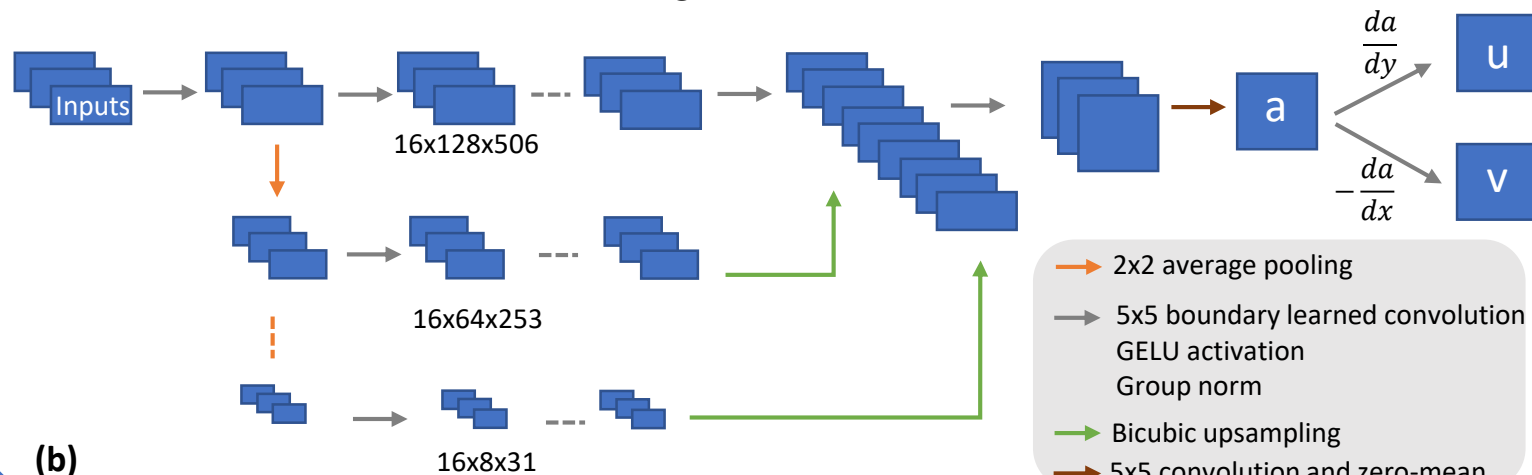
Derivatives are calculated with finite differences through fixed kernels

$$\frac{d}{dx} = \begin{bmatrix} 0 & 0 & 0 \\ -0.5 & 0 & 0.5 \\ 0 & 0 & 0 \end{bmatrix}$$

$$\frac{d}{dy} = \begin{bmatrix} 0 & -0.5 & 0 \\ 0 & 0 & 0 \\ 0 & 0.5 & 0 \end{bmatrix}$$

(d)

CNN



(b)