



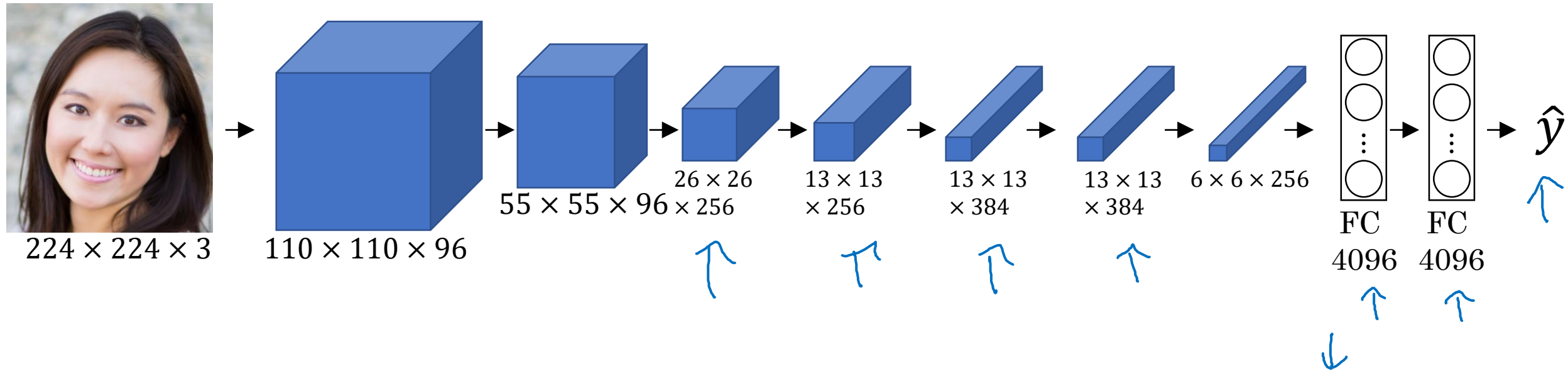
deeplearning.ai

# Neural Style Transfer

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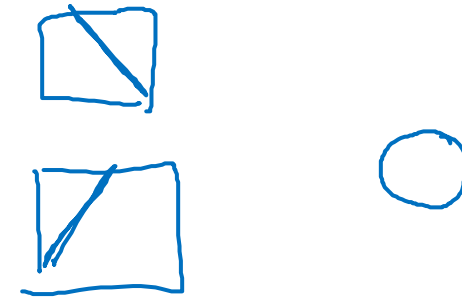
What are deep  
ConvNets learning?

# Visualizing what a deep network is learning

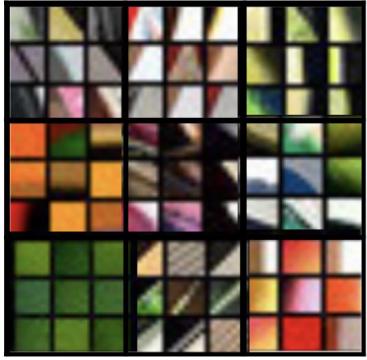


Pick a unit in layer 1. Find the nine image patches that maximize the unit's activation.

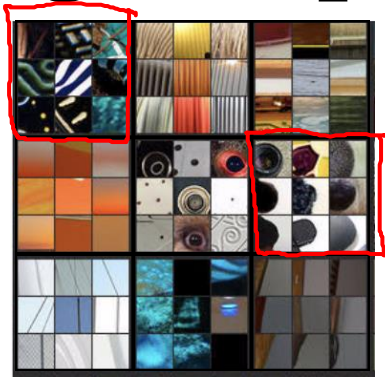
Repeat for other units.



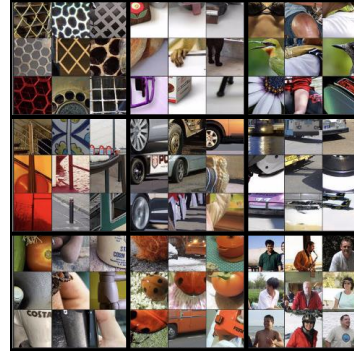
# Visualizing deep layers



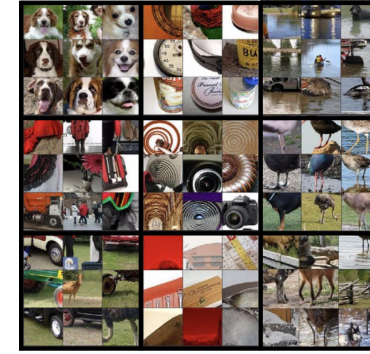
Layer 1



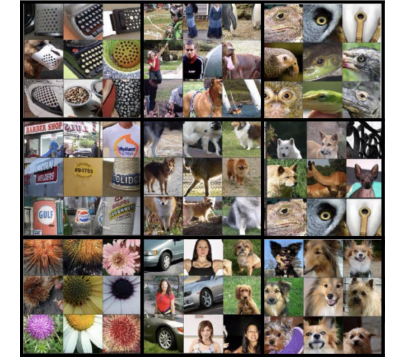
Layer 2



Layer 3

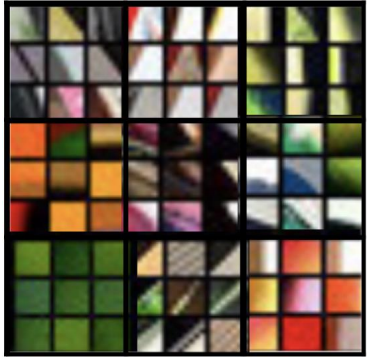


Layer 4

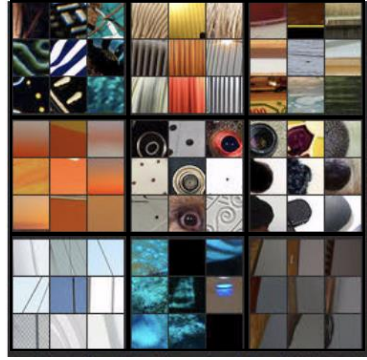


Layer 5

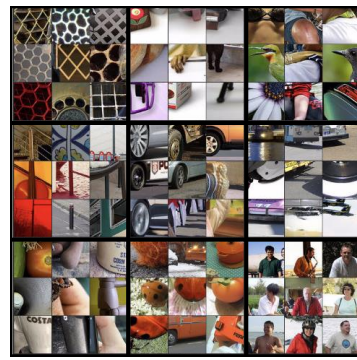
# Visualizing deep layers: Layer 1



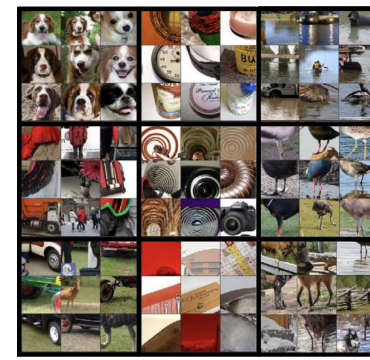
Layer 1



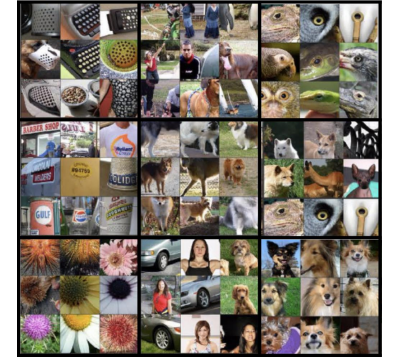
Layer 2



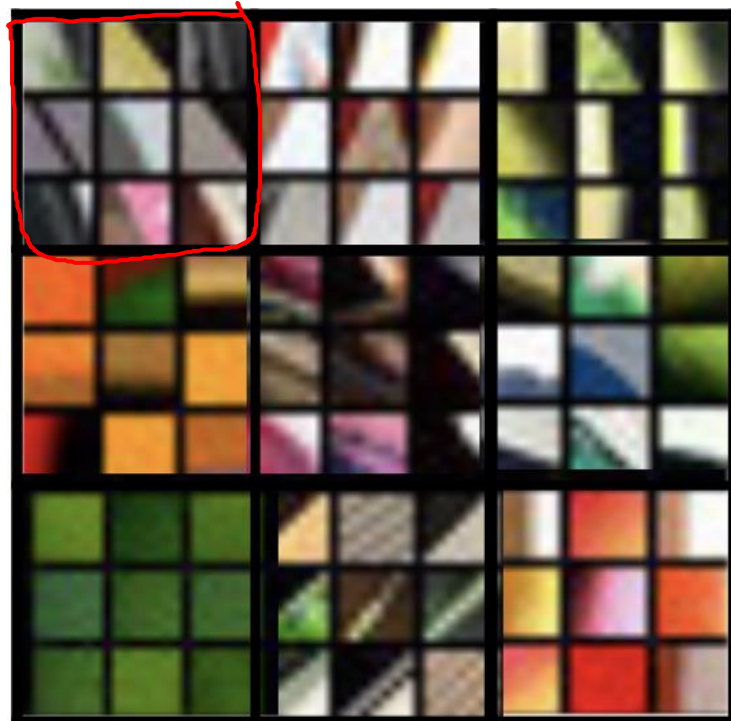
Layer 3



Layer 4

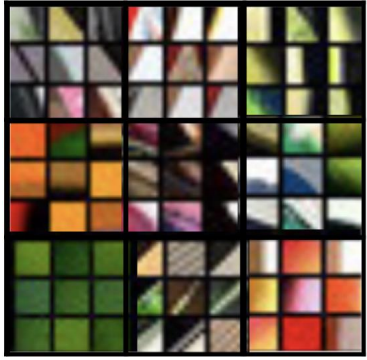


Layer 5

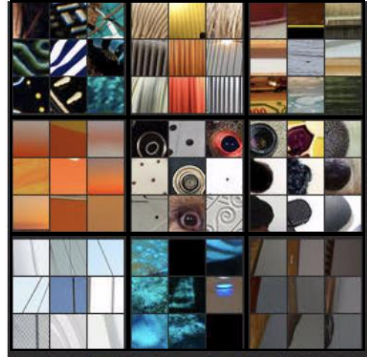




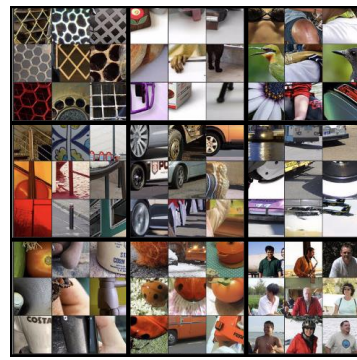
# Visualizing deep layers: Layer 2



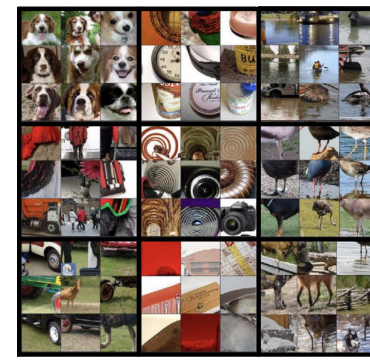
Layer 1



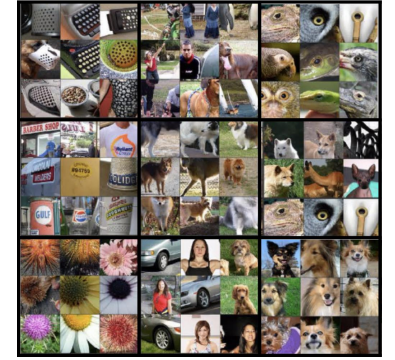
Layer 2



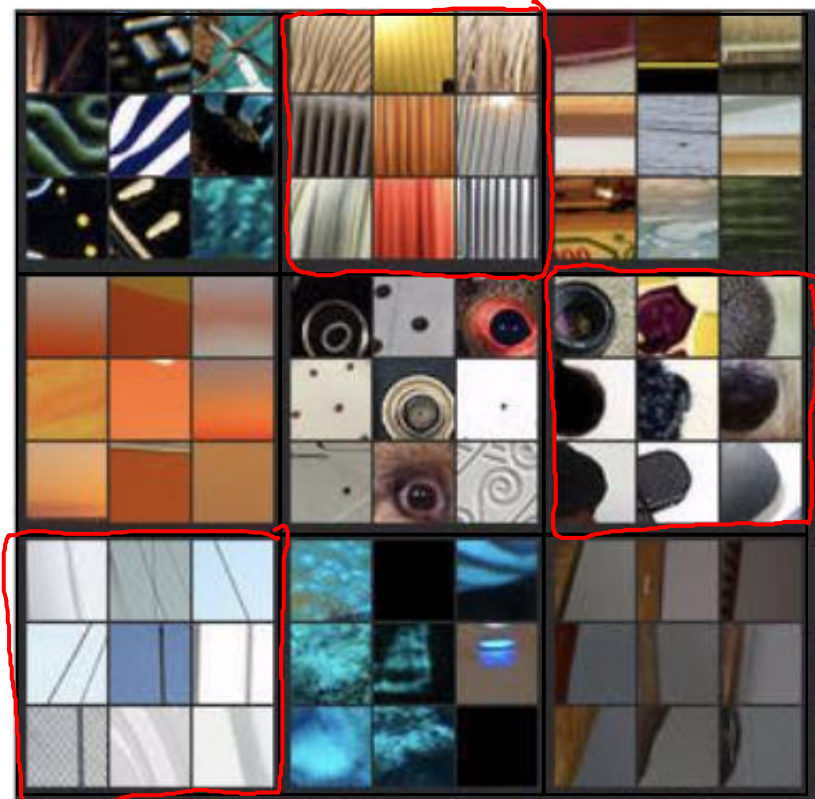
Layer 3



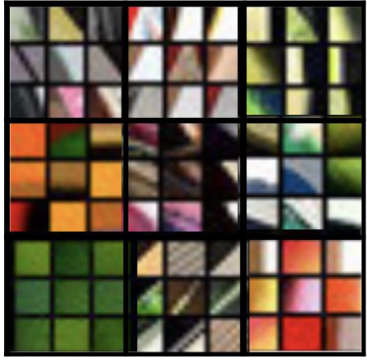
Layer 4



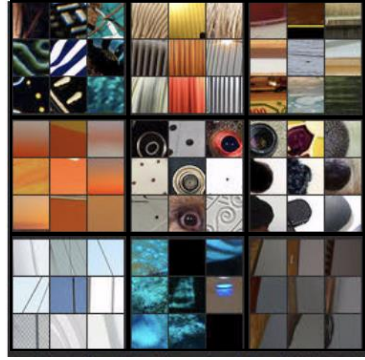
Layer 5



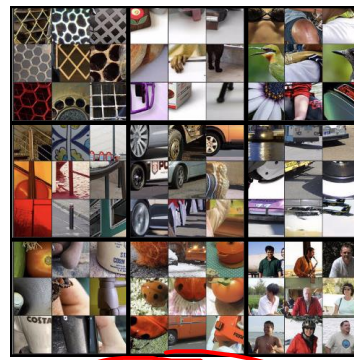
# Visualizing deep layers: Layer 3



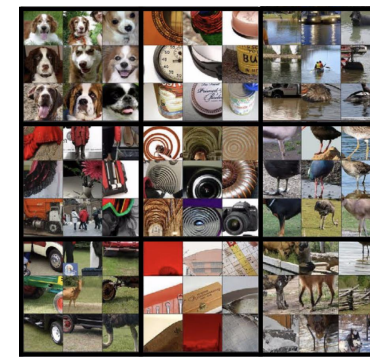
Layer 1



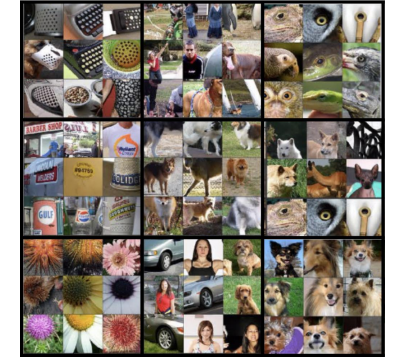
Layer 2



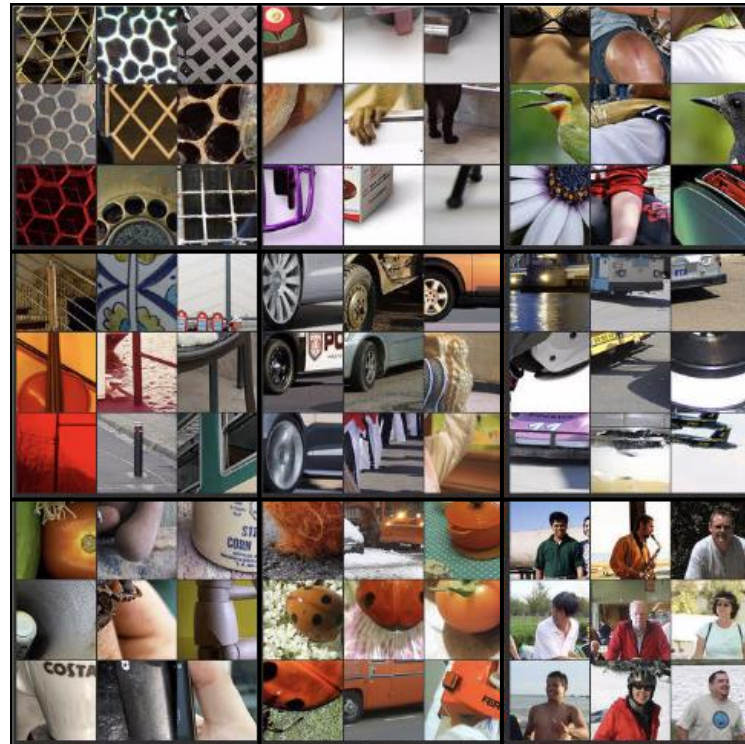
Layer 3



Layer 4

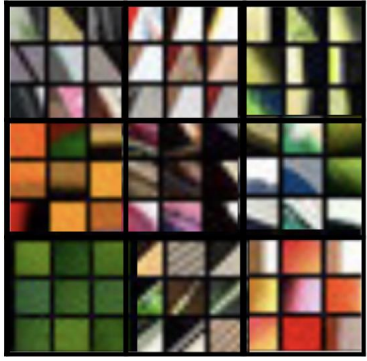


Layer 5

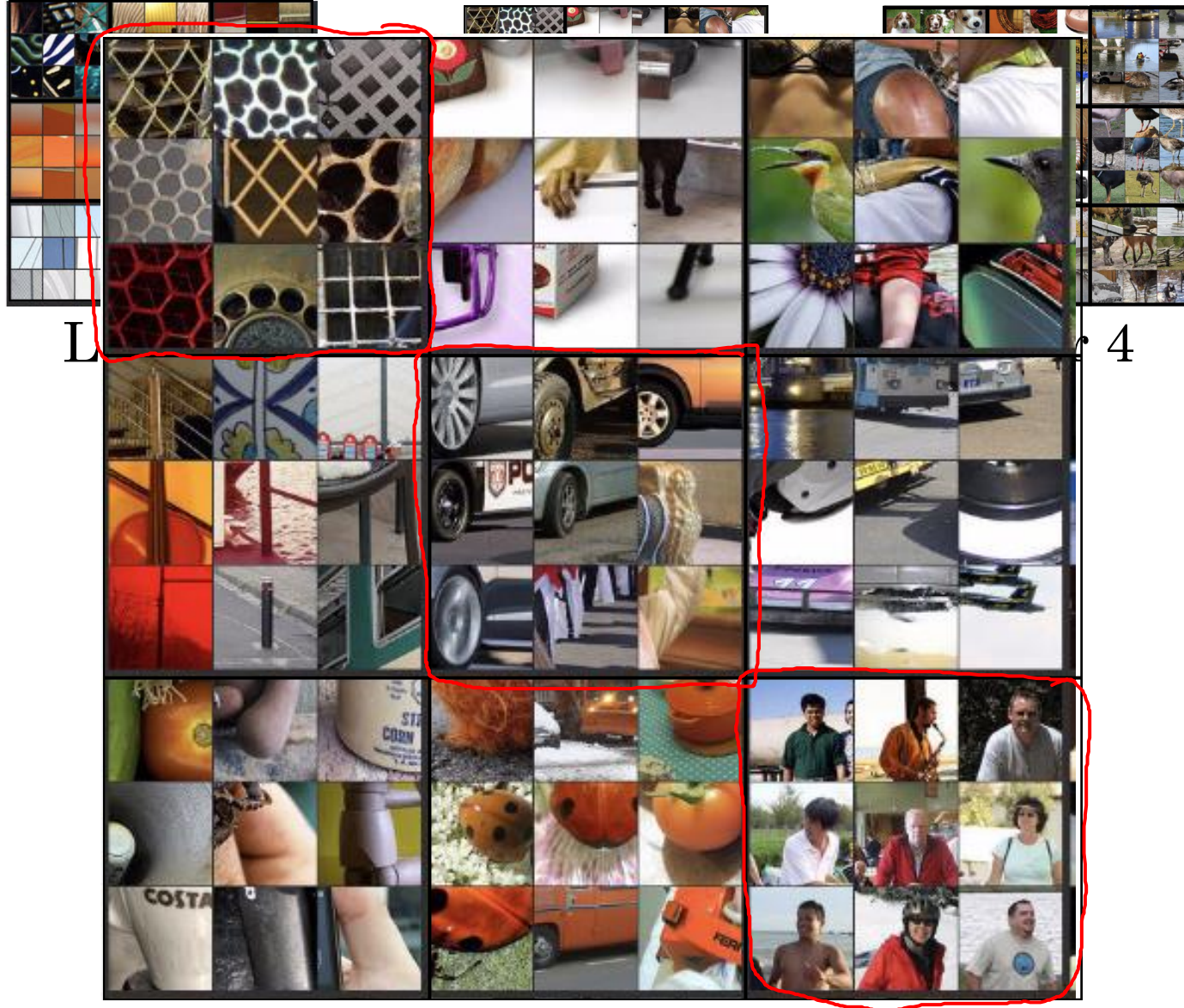




# Visualizing deep layers: Layer 3

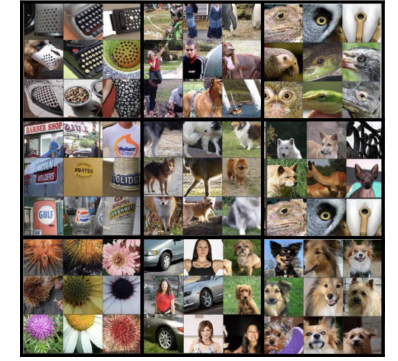


Layer 1



Layer 3

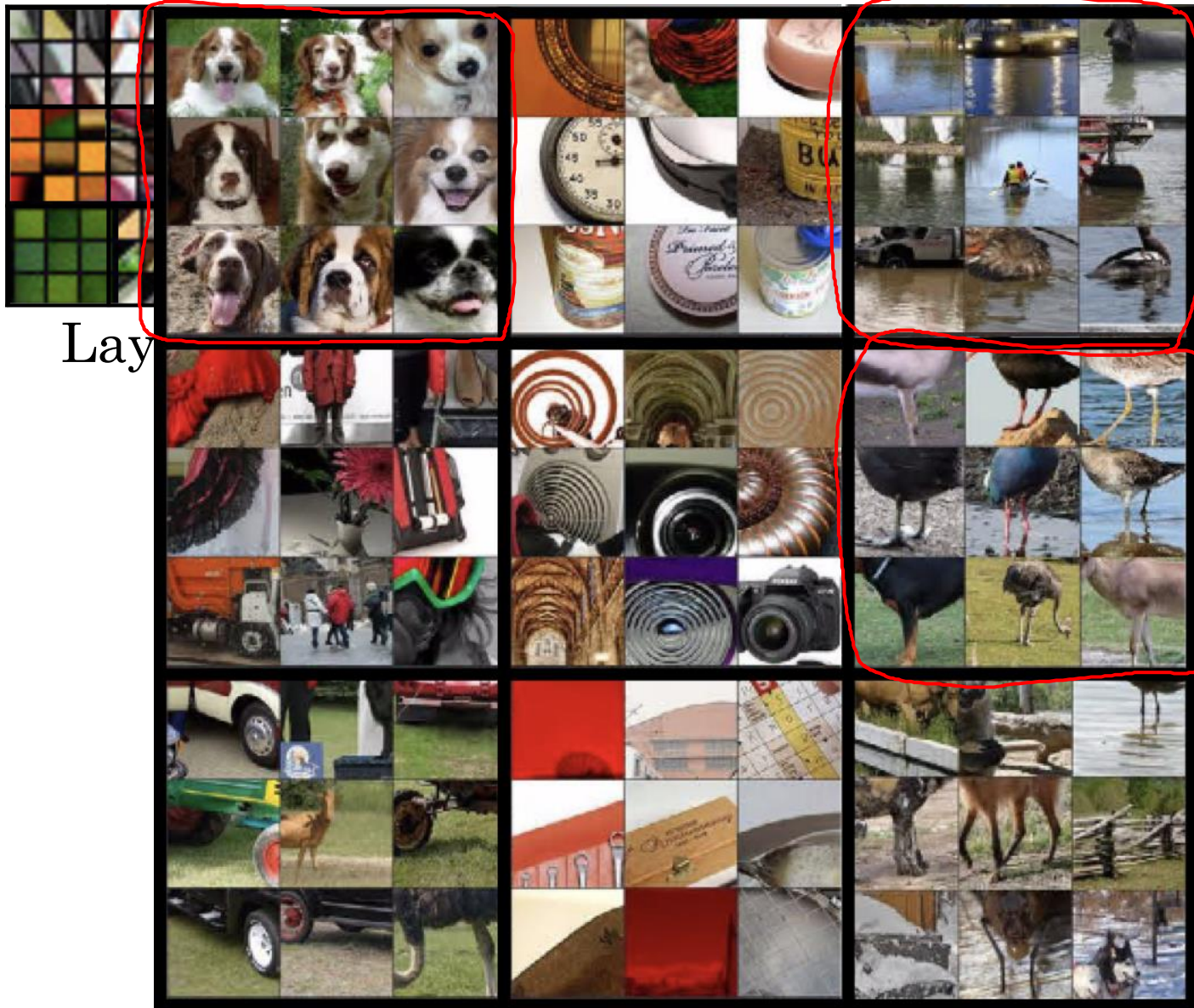
4



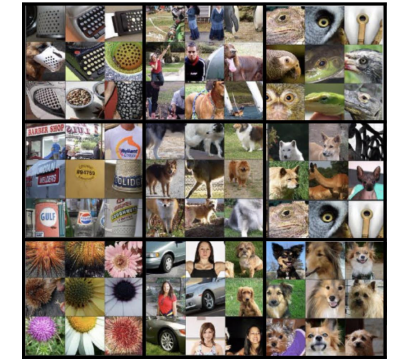
Layer 5



# Visualizing deep layers: Layer 4



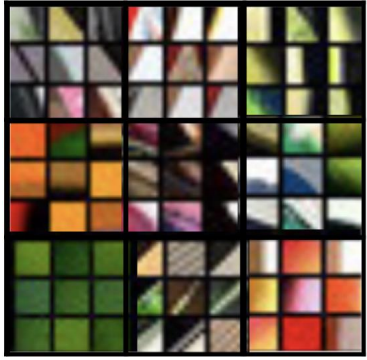
Layer 4



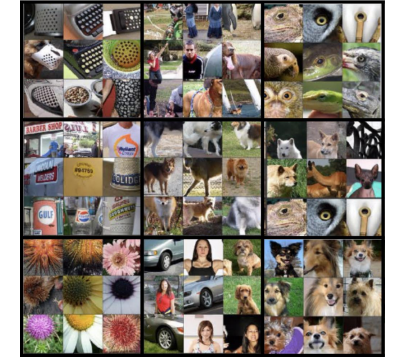
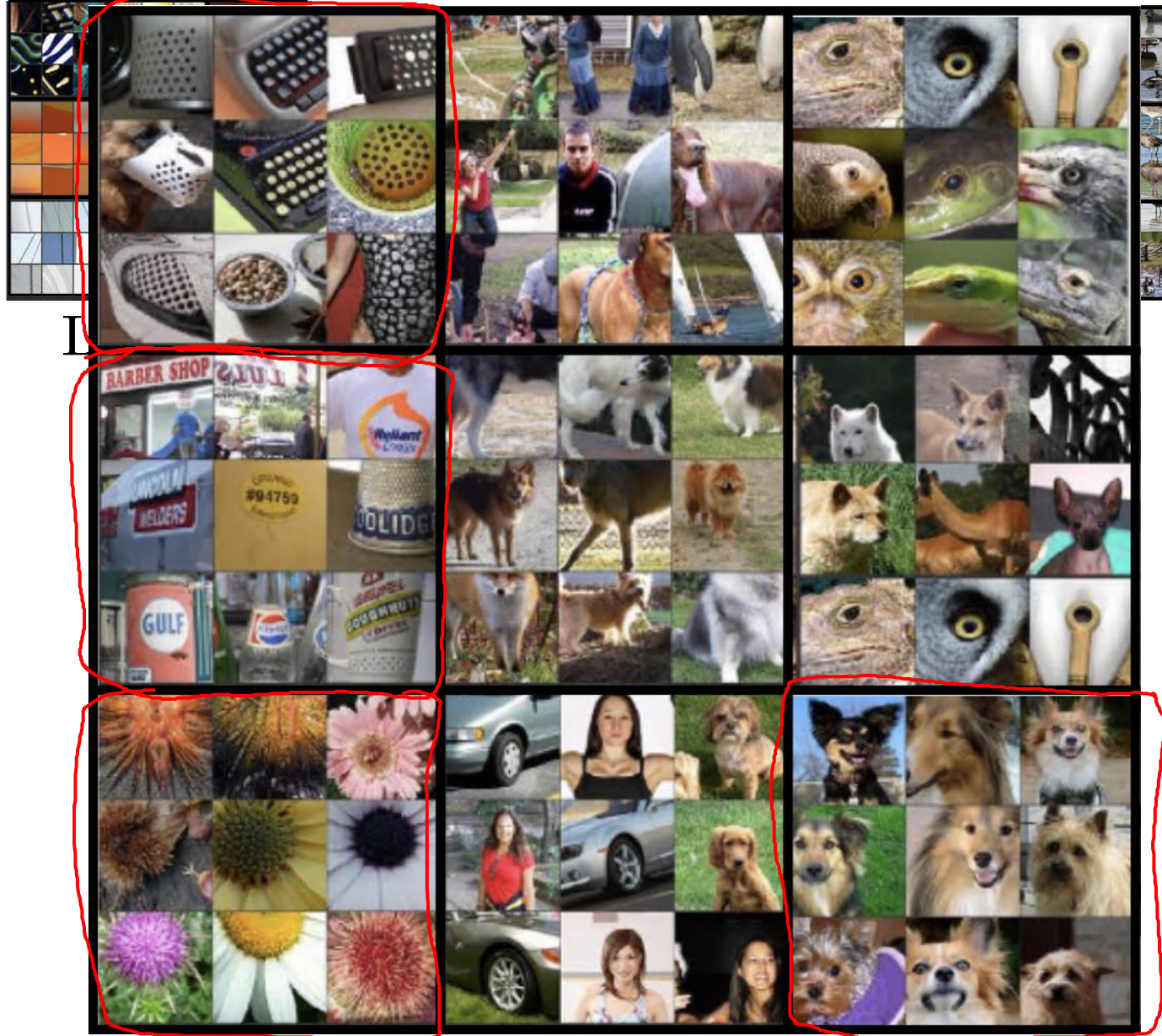
Layer 5



# Visualizing deep layers: Layer 5



Layer 1



Layer 5