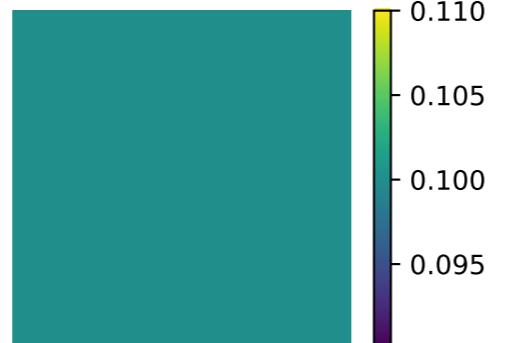


CNN Feature Analysis: Grid 3x3

Original Input



One-Hot Embedding
10 channels



Grid Size: 3x3 | CNN: 3 conv layers | Hidden Dim: 128

Layer Statistics:

EMBED: Ch=10, Size=(3, 3), Mean=0.100±0.153, Range=[0.00,1.00]
Diversity=0.6667, Sparsity=0.900, Entropy=0.33

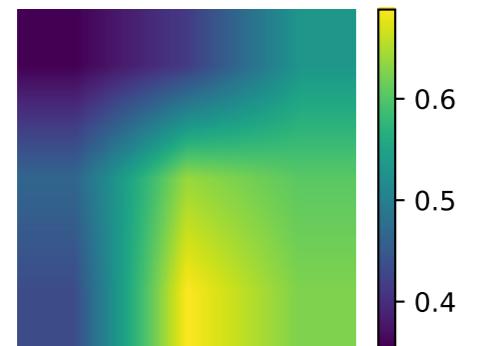
CONV1: Ch=128, Size=(3, 3), Mean=0.527±0.449, Range=[0.00,7.39]
Diversity=0.6597, Sparsity=0.681, Entropy=0.81

CONV2: Ch=128, Size=(3, 3), Mean=0.377±0.400, Range=[0.00,5.49]
Diversity=0.6094, Sparsity=0.670, Entropy=0.77

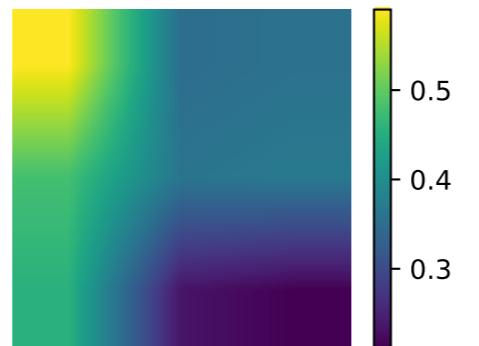
CONV3: Ch=128, Size=(3, 3), Mean=0.389±0.343, Range=[0.00,3.81]
Diversity=0.5348, Sparsity=0.591, Entropy=0.98

Spatial Features: Ch=128, Size=(3, 3), Mean=0.389±0.343, Range=[0.00,3.81]
Diversity=0.5348, Sparsity=0.591, Entropy=0.98

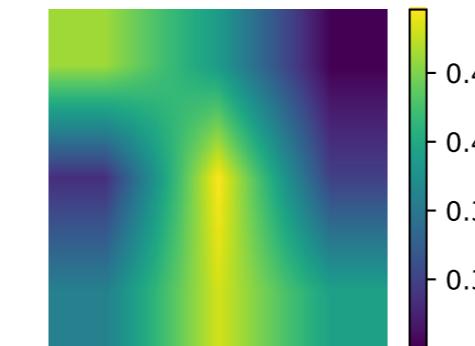
CONV1 Average
1 channels



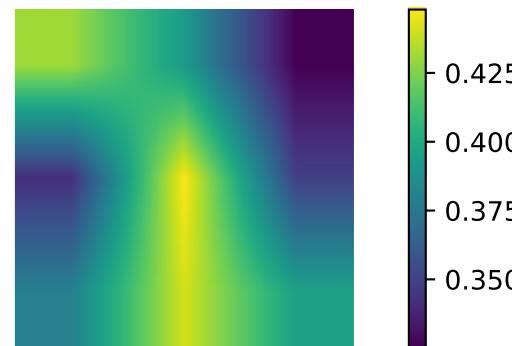
CONV2 Average
1 channels



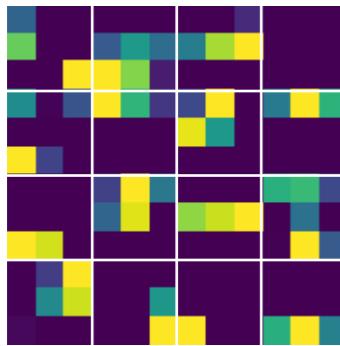
CONV3 Average
1 channels



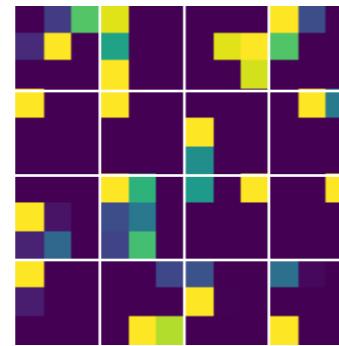
Spatial Features (avg)
→ Input to Slot Attention



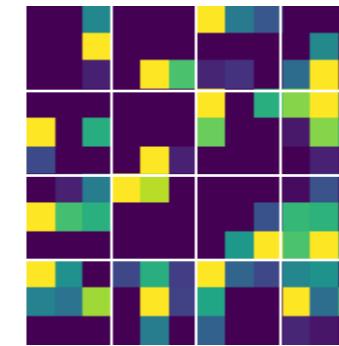
Feature Channels (showing 16/128)



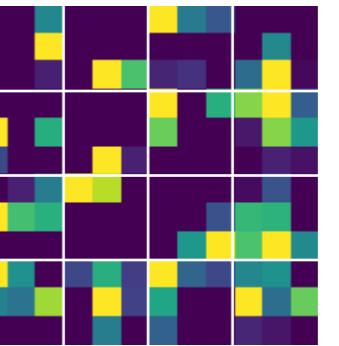
Feature Channels (showing 16/128)



Feature Channels (showing 16/128)



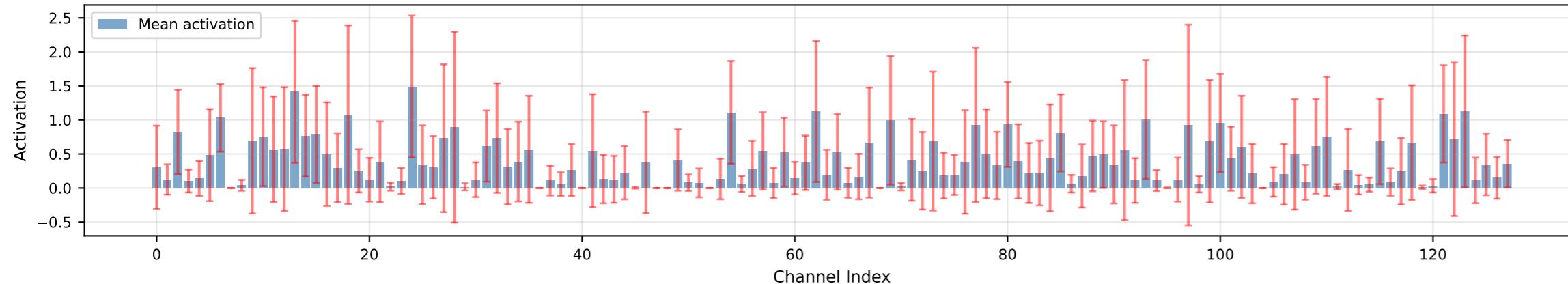
Feature Channels (showing 16/128)



DIAGNOSIS SUMMARY:

- =====
- GOOD DIVERSITY
- HIGH SPARSITY: Many dead neurons
- LOW ENTROPY: Low information

Spatial Feature Channel Activations (mean ± std)



Spatial Location Similarity
(sample of 9 locations)

