CNN Feature Analysis: Grid 10×8

Original Input

One-Hot Embedding
10 channels


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Grid Size: 10×8   |   CNN: 3 conv layers   |   Hidden Dim: 128

Layer Statistics:
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EMBED: Ch=10, Size=(10, 8), Mean=0.100±0.267, Range=[0.00,1.00]
  Diversity=0.1850, Sparsity=0.900, Entropy=0.70

CONV1: Ch=128, Size=(10, 8), Mean=0.468±0.390, Range=[0.00,7.91]
  Diversity=0.5928, Sparsity=0.646, Entropy=2.69

CONV2: Ch=128, Size=(10, 8), Mean=0.286±0.269, Range=[0.00,5.82]
  Diversity=0.6729, Sparsity=0.711, Entropy=2.65

CONV3: Ch=128, Size=(10, 8), Mean=0.281±0.245, Range=[0.00,5.28]
  Diversity=0.6109, Sparsity=0.632, Entropy=2.92

SPATIAL_FEATURES: Ch=128, Size=(10, 8), Mean=0.281±0.245, Range=[0.00,5.28]
  Diversity=0.6109, Sparsity=0.632, Entropy=2.92
```
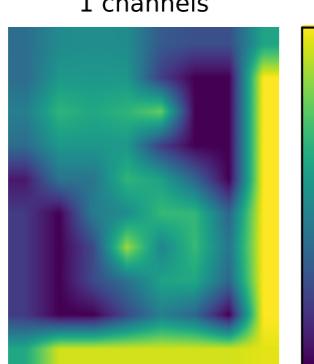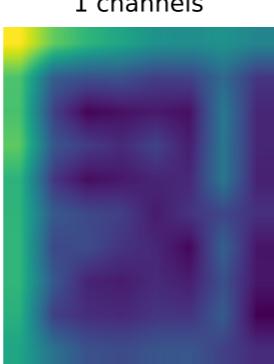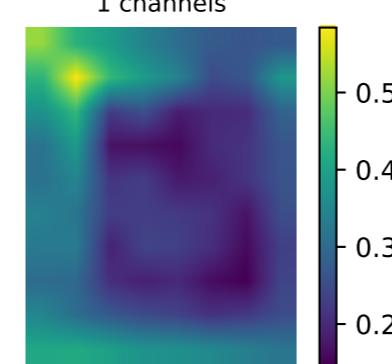
CONV1 Average
1 channels
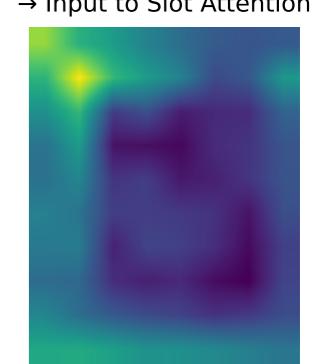
CONV2 Average
1 channels
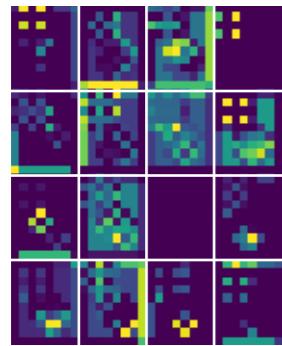
CONV3 Average
1 channels
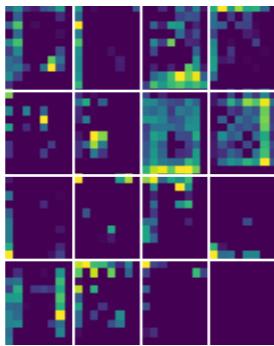
Spatial Features (avg)
→ Input to Slot Attention
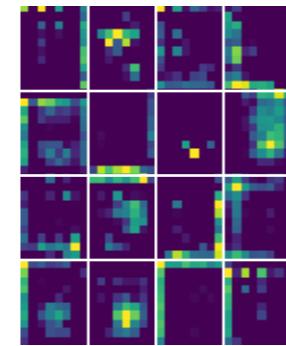
Feature Channels (showing 16/128)
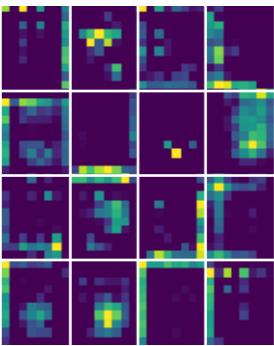
Feature Channels (showing 16/128)

Feature Channels (showing 16/128)
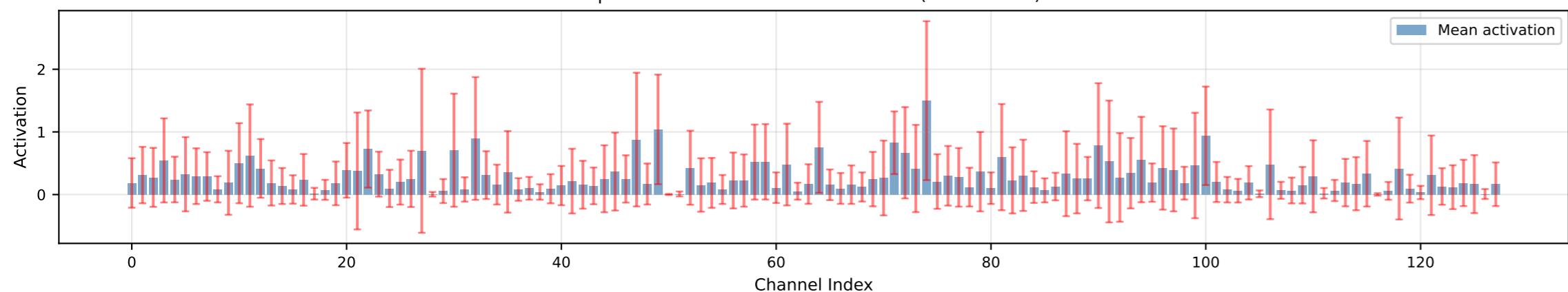
Feature Channels (showing 16/128)


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DIAGNOSIS SUMMARY:
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☐ GOOD DIVERSITY
⚠  HIGH SPARSITY: Many dead neurons
☐ GOOD ENTROPY
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Spatial Feature Channel Activations (mean ± std)

Spatial Location Similarity
(sample of 50 locations)