

Qwen2.5 Run

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LLaVA + CCS on VQA v2 Dataset

Job ID: 15544223

Started: Fri Oct 24 19:54:14 CEST 2025

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Environment Check

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Working directory: /gpfs/home1/tgok/test/Qwen

PyTorch: 2.1.2

Transformers: 4.49.0

NumPy: 1.25.1

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Running Qwen + CCS on VQA v2...

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Model: Qwen/Qwen2.5-VL-7B-Instruct

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CATEGORY: OBJECT_DETECTION

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EXTRACTING HIDDEN STATES: OBJECT_DETECTION

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⚠ Cache disabled (use_cache=False). Extracting new...

Processing 1323 samples in batches of 40

Searching in 2 image directories

LOADING MODEL: qwen2_5

Device: cuda

✓ Model loaded successfully

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✓ Successfully processed: 1140/1323

X Skipped (missing/error): 183/1323

First 10 skipped: 000000262227.jpg, 000000262440.jpg, 000000262440.jpg,
000000262682.jpg, 000000262682.jpg, 000000262682.jpg, 000000139684.jpg,
000000000632.jpg, 000000000632.jpg, 000000000632.jpg...

Extracted shapes:

Positive: (1140, 3584)

Negative: (1140, 3584)

Labels: (1140,)

Cached to: hidden_states_cache_final/cache_object_detection_1323_qwen2_5.npz

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TRAINING CCS PROBE

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Dataset split:

Train: 797 samples (403 pos, 394 neg)

Test: 343 samples (173 pos, 170 neg)

Hidden dim: 3584

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TRAINING WITH MULTIPLE RANDOM RESTARTS

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Trial 1/10: Loss = 0.000699

Trial 2/10: Loss = 0.000698

Trial 3/10: Loss = 0.000645

Trial 4/10: Loss = 0.000769

Trial 5/10: Loss = 0.000729

Trial 6/10: Loss = 0.000767

Trial 7/10: Loss = 0.000664

Trial 8/10: Loss = 0.000658

Trial 9/10: Loss = 0.000670

Trial 10/10: Loss = 0.000438

EVALUATION WITH BEST PROBE

Best loss: 0.000438

Test Results:

Overall Accuracy: 84.8% (291/343)

Positive samples: 86.1% (173 samples)

Negative samples: 83.5% (170 samples)

✓ COMPLETE: object_detection → 84.8%

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CATEGORY: ATTRIBUTE_RECOGNITION

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EXTRACTING HIDDEN STATES: ATTRIBUTE_RECOGNITION

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⚠ Cache disabled (use_cache=False). Extracting new...

Processing 3410 samples in batches of 40

Searching in 2 image directories

LOADING MODEL: qwen2_5

Device: cuda

✓ Model loaded successfully

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✓ Successfully processed: 3002/3410

X Skipped (missing/error): 408/3410

First 10 skipped: 000000393282.jpg, 000000393282.jpg, 000000393282.jpg,
000000393469.jpg, 000000000285.jpg, 000000262440.jpg, 000000262440.jpg,
000000262440.jpg, 000000262440.jpg, 000000131386.jpg...

Extracted shapes:

Positive: (3002, 3584)

Negative: (3002, 3584)

Labels: (3002,)

Cached to: hidden_states_cache_final/cache_attribute_recognition_3410_qwen2_5.npz

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TRAINING CCS PROBE

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Dataset split:

Train: 2101 samples (1062 pos, 1039 neg)

Test: 901 samples (456 pos, 445 neg)

Hidden dim: 3584

TRAINING WITH MULTIPLE RANDOM RESTARTS

Trial 1/10: Loss = 0.004829
Trial 2/10: Loss = 0.005072
Trial 3/10: Loss = 0.002456
Trial 4/10: Loss = 0.005236
Trial 5/10: Loss = 0.004712
Trial 6/10: Loss = 0.003517
Trial 7/10: Loss = 0.002941
Trial 8/10: Loss = 0.004980
Trial 9/10: Loss = 0.005689
Trial 10/10: Loss = 0.005867

EVALUATION WITH BEST PROBE

Best loss: 0.002456

Test Results:

Overall Accuracy: 85.5% (770/901)
Positive samples: 83.1% (456 samples)
Negative samples: 87.9% (445 samples)

✓ COMPLETE: attribute_recognition → 85.5%

CATEGORY: SPATIAL_RECOGNITION

EXTRACTING HIDDEN STATES: SPATIAL_RECOGNITION

⚠ Cache disabled (use_cache=False). Extracting new...

Processing 1030 samples in batches of 40

Searching in 2 image directories

LOADING MODEL: qwen2_5

Device: cuda

✓ Model loaded successfully

✓ Successfully processed: 880/1030

X Skipped (missing/error): 150/1030

First 10 skipped: 000000393282.jpg, 000000000285.jpg, 000000262682.jpg,
000000000632.jpg, 000000262895.jpg, 000000043816.jpg, 000000043816.jpg,
000000043816.jpg, 000000043816.jpg, 000000000785.jpg...

Extracted shapes:

Positive: (880, 3584)

Negative: (880, 3584)

Labels: (880,)

Cached to: hidden_states_cache_final/cache_spatial_recognition_1030_qwen2_5.npz

TRAINING CCS PROBE

Dataset split:

Train: 615 samples (294 pos, 321 neg)

Test: 265 samples (126 pos, 139 neg)

Hidden dim: 3584

TRAINING WITH MULTIPLE RANDOM RESTARTS

Trial 1/10: Loss = 0.001303

Trial 2/10: Loss = 0.001452

Trial 3/10: Loss = 0.001069

Trial 4/10: Loss = 0.001542

Trial 5/10: Loss = 0.001071

Trial 6/10: Loss = 0.001612

Trial 7/10: Loss = 0.001348

Trial 8/10: Loss = 0.000917

Trial 9/10: Loss = 0.001572

Trial 10/10: Loss = 0.001419

EVALUATION WITH BEST PROBE

Best loss: 0.000917

Test Results:

Overall Accuracy: 79.6% (211/265)

Positive samples: 72.2% (126 samples)

Negative samples: 86.3% (139 samples)

✓ COMPLETE: spatial_recognition → 79.6%

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Final Results:

object_detection : 84.8%

attribute_recognition : 85.5%

spatial_recognition : 79.6%

Average : 83.3%

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= Job finished at Fri Oct 24 20:24:33 CEST 2025 with exit code: 0 =