

Strategy Evaluation Results

Summary

Total Strategy Combinations	2
Total Test Cases	10000
Timestamp	2026-02-12 16:46:00

Strategy Performance

RULE_BASED_NLP + DIJKSTRA Path Finder

Classification Metrics

Accuracy	70.09% (7009/10000)
Precision (CORRECT)	72.02%
Recall (CORRECT)	81.35%
F1 Score (CORRECT)	76.40%

Per-Category Accuracy

Category	Accuracy
CORRECT	81.35%
NOT_FRENCH	19.85%
NOT_TRIP	93.92%

Pipeline Timing

Avg Execution Time	18.87 ms
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Median Execution Time	17.58 ms
P95 Execution Time	27.36 ms
Min Execution Time	15.10 ms
Max Execution Time	40.26 ms
Std Dev	3.51 ms

NLP Results

Inputs Processed	10000
Successfully Extracted	6723
Extraction Errors	3277
Avg Extraction Time	18.27 ms
Median Extraction Time	16.95 ms
P95 Extraction Time	26.42 ms

Path Finder Results

Paths Computed	6723
Avg Computation Time	0.60 ms
Median Computation Time	0.23 ms
P95 Computation Time	1.93 ms
Avg Path Length	9.33 stations

HF_NER NLP + DIJKSTRA Path Finder

Classification Metrics

Accuracy	52.35% (5235/10000)
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Precision (CORRECT)	72.14%
Recall (CORRECT)	32.49%
F1 Score (CORRECT)	44.80%

Per-Category Accuracy

Category	Accuracy
CORRECT	32.49%
NOT_FRENCH	66.15%
NOT_TRIP	100.00%

Pipeline Timing

Avg Execution Time	34.44 ms
Median Execution Time	35.32 ms
P95 Execution Time	42.48 ms
Min Execution Time	17.20 ms
Max Execution Time	2608.06 ms
Std Dev	26.58 ms

NLP Results

Inputs Processed	10000
Successfully Extracted	2681
Extraction Errors	7319
Avg Extraction Time	33.97 ms
Median Extraction Time	34.82 ms

P95 Extraction Time	41.71 ms
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Path Finder Results

Paths Computed	2681
Avg Computation Time	0.48 ms
Median Computation Time	0.00 ms
P95 Computation Time	2.79 ms
Avg Path Length	11.29 stations

Results Per Strategy

NLP Results (Global)

The NLP component extracts departure and arrival stations from user input.

Total Inputs Processed	20000
Successfully Extracted	9404
Extraction Errors	10596
Avg Extraction Time	26.12 ms
Median Extraction Time	24.37 ms
P95 Extraction Time	40.07 ms

Path Finder Results (Global)

The path finder computes the shortest route between two stations.

Total Paths Computed	9404
Avg Path Computation Time	1.14 ms
Avg Path Length	9.89 stations

Pipeline Results

End-to-end pipeline performance combining NLP and path finding.

Total Pipeline Executions	20000
Avg Total Time	26.66 ms
Median Total Time	25.02 ms
P95 Total Time	40.79 ms
Min Total Time	15.10 ms
Max Total Time	2608.06 ms

Std Dev	20.49 ms
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