

# Statistical Benchmark Report

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This report provides quantitative evaluation results for NDCG@k and faithfulness, correlation diagnostics, outlier detection, and statistical visualizations.

# 1. Summary Statistics

files	100.0000
ndcg@k mean	1.0000
ndcg@k ci95 lo	1.0000
ndcg@k ci95 hi	1.0000
faith mean	0.5686
faith ci95 lo	0.5310
faith ci95 hi	0.6062
ndcg@k median	1.0000
faith median	0.5829
ndcg@k std	0.0002
faith std	0.1860
bootstrap iters	2000.0000
iqr k	1.5000
z thresh	3.0000
faith high thr	0.5000
faith mid thr	0.2500

## 2. Correlation and Outlier Analysis

Metric Pair	Correlation	p-value
Pearson r	0.098	3.335e-01
Spearman p	0.085	3.988e-01

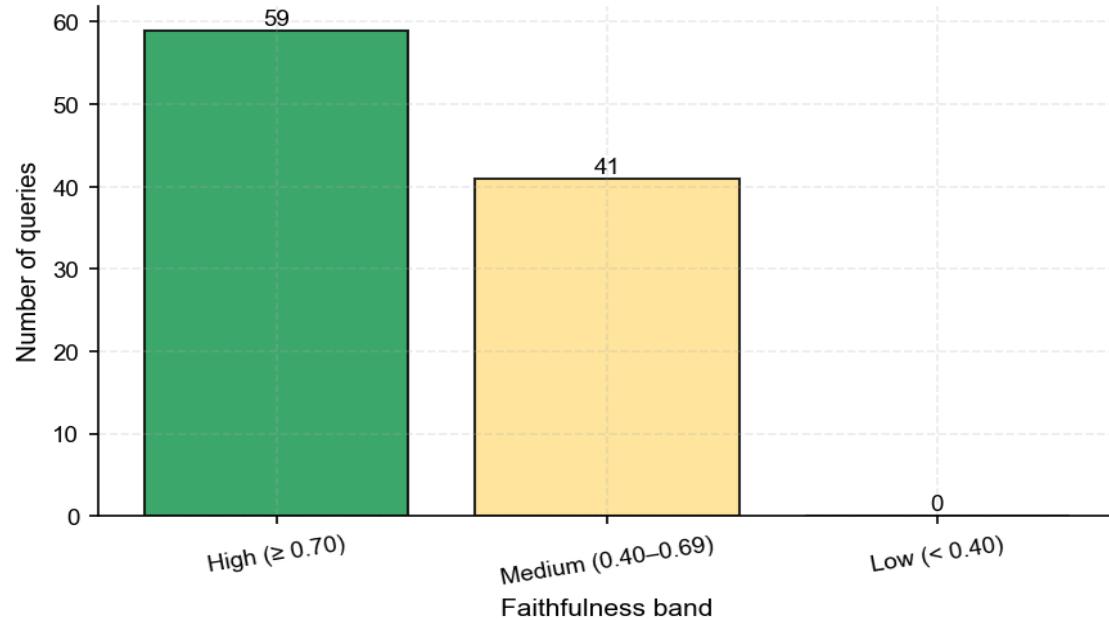
### Detected Outliers

Query	NDCG@k	Faithfulness	z_ndcg	z_faith
Compare_and_contrast_the_main_theoretical_perspectives_on_summarize_the_emergenc	0.998	0.388	-9.84	-0.97

### 3. Visual Analytics

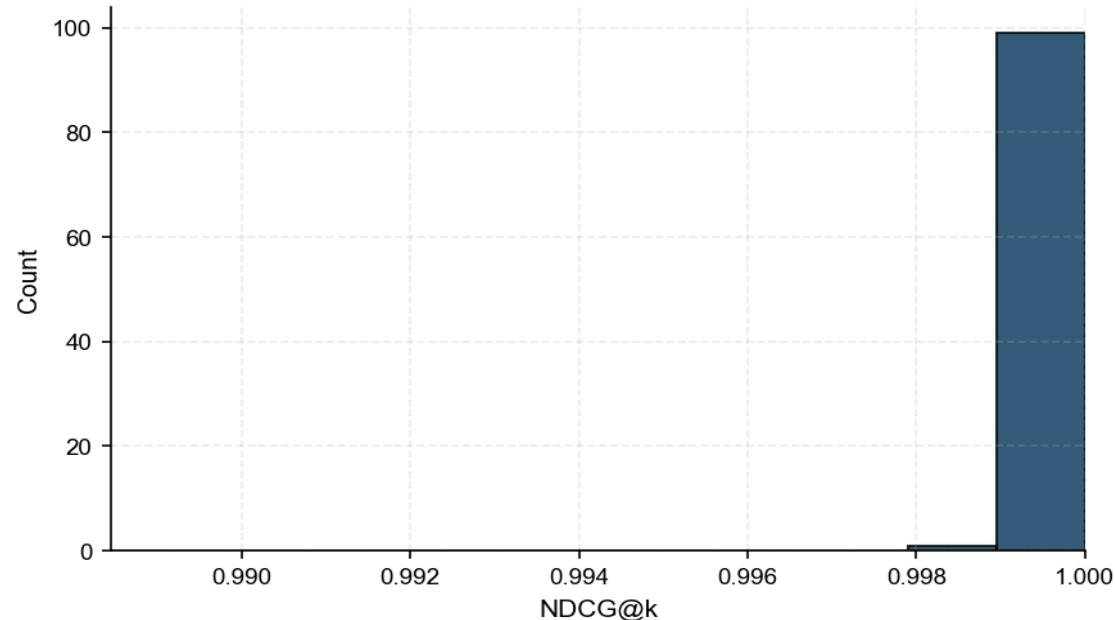
**faithfulness bands global.png**

Figure 2: Faithfulness bands across all queries



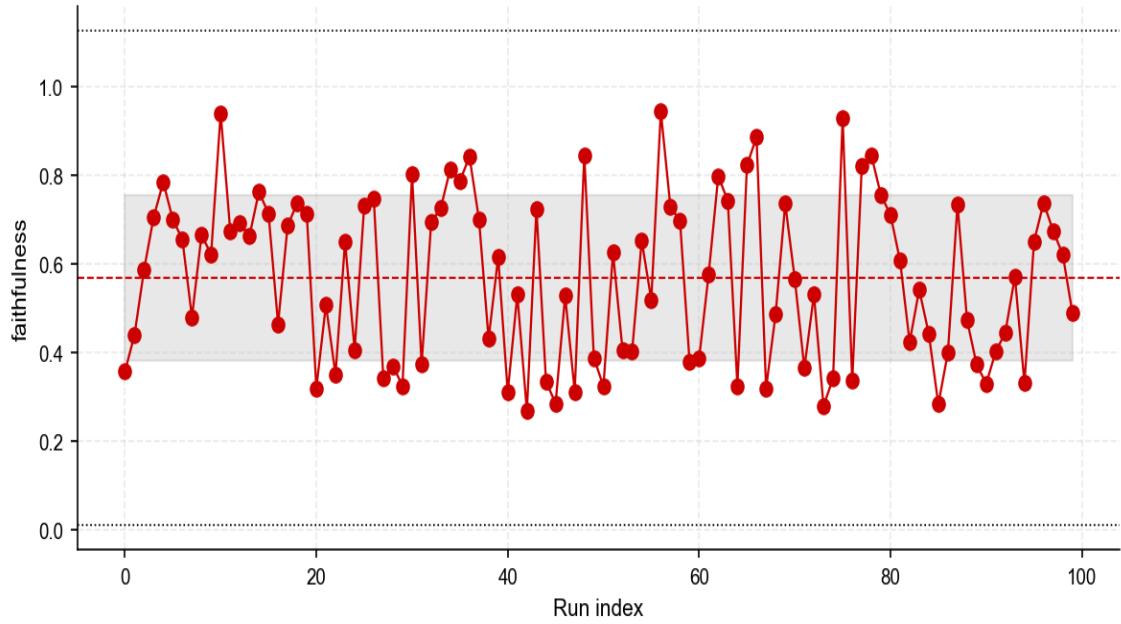
**hist ndcg.png**

Figure 1: Distribution of NDCG@k



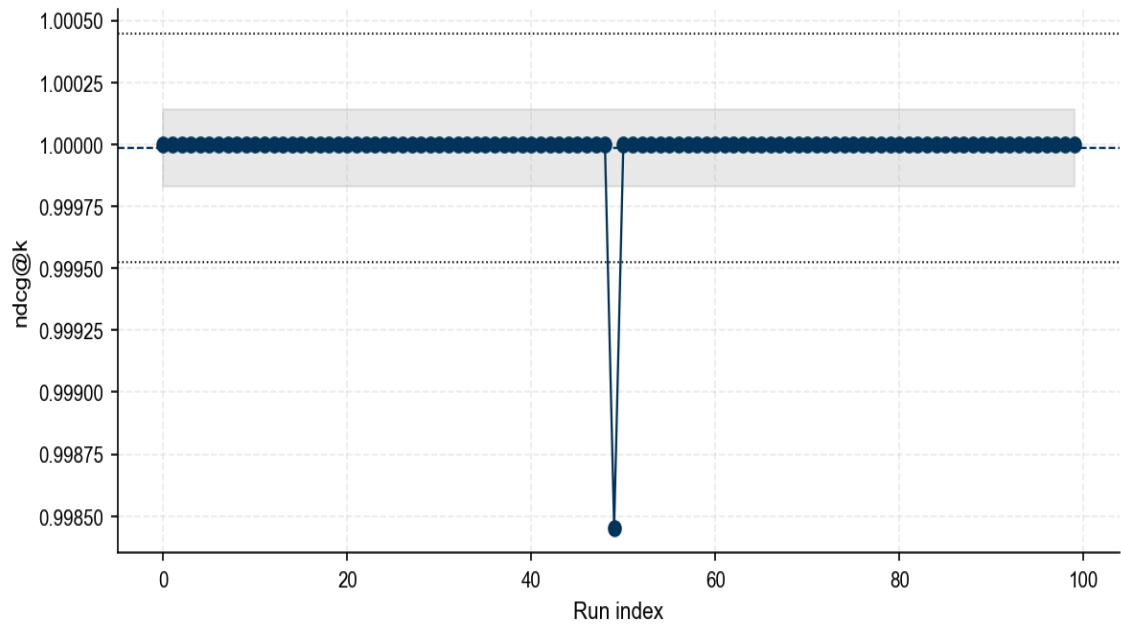
**run order faithfulness.png**

Figure 5: Run-order chart for faithfulness



### run order ndcg@k.png

Figure 4: Run-order chart for ndcg@k



### scatter ndcg vs faithfulness.png

Figure 3: Scatter NDCG@k vs Faithfulness ( $r=0.098$ ,  $p=0.085$ )

