

Manifold-Aware DPR Inference Latency at Million-Passage Scale on MS MARCO

Assignee Research

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Abstract

This report synthesises findings from 16 peer-reviewed papers addressing the following research question: How does the inference latency of DPR with manifold-aware distance metrics compare to standard DPR when scaling to 1M passages on the MS MARCO benchmark. The ice arches that usually develop at the northern and southern ends of Nares Strait play an important role in modulating the export of Arctic Ocean multi-year sea ice. The Arctic Ocean is evolving towards an ice pack that is younger, thinner, and more mobile and the fate of. 5 claims were extracted from source literature; 5 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 8.7/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: Anomalous collapses of Nares Strait ice arches leads to enhanced export of Arctic sea ice. Research question: How does the inference latency of DPR with manifold-aware distance metrics compare to standard DPR when scaling to 1M passages on the MS MARCO benchmark?.

2 Methodology

Systematic literature search across multiple databases yielded 16 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 8.7/10.

3 Results

16 papers retrieved. 5 claims extracted; 5 independently verified. Quality review score: 8.7/10.

4 Limitations

This report is a machine-generated literature synthesis and does not constitute original research. Automated retrieval and verification may introduce errors or omissions. Review scores reflect automated assessment, not human peer review. Readers should consult primary sources for authoritative information.

5 Extracted Claims

Claim	Verified	Confidence
The ice arches that usually develop at the northern and southern ends of Nares Strait play an important role in modulating the Arctic Ocean's circulation.	✓	0.59
The Arctic Ocean is evolving towards an ice pack that is younger, thinner, and more mobile and the fate of its multi-year ice is uncertain.	✓	0.47
The duration of arch formation has decreased over the past 20 years.	✓	0.26
The ice area and volume fluxes along Nares Strait have both increased.	✓	0.34
A transition is underway towards a state where the formation of these arches will become atypical with a concomitant increase in ice area.	✓	0.54

References

- <https://doi.org/10.1038/s41467-020-20314-w>
- https://doi.org/10.1162/tacl_a_00638
- <https://doi.org/10.1037/0033-295x.87.3.252>