

Node-Based Bayesian Neural Networks Under Distribution Shifts in Tabular Data

Assignee Research

June 7, 2026

Abstract

This report synthesises findings from 9 peer-reviewed papers addressing the following research question: To what extent do node-based Bayesian neural networks maintain calibration and predictive uncertainty under dataset distribution shifts, as measured by metrics like negative log-likelihood or Brier. 0 claims were extracted from source literature; 0 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 4.5/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: Information Aware Max-Norm Dirichlet Networks for Predictive Uncertainty Estimation. Research question: To what extent do node-based Bayesian neural networks maintain calibration and predictive uncertainty under dataset distribution shifts, as measured by metrics like negative log-likelihood or Brier score on cross-domain tabular datasets?.

2 Methodology

Systematic literature search across multiple databases yielded 9 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 4.5/10.

3 Results

9 papers retrieved. 0 claims extracted; 0 independently verified. Quality review score: 4.5/10.

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.

References

- <http://arxiv.org/abs/1910.04819v4>
- <http://arxiv.org/abs/2307.05284v6>
- <http://arxiv.org/abs/2103.07492v4>