

MoE Gating Analysis: CICIDS

Overview

This report analyzes how the Mixture-of-Experts (MoE) model distributes weights between the **Tabular Expert** and **Temporal Expert** for different attack types in the CICIDS dataset.

Attack Type Statistics

Attack Type	Count	Mean Tabular	Mean Temporal	Std Tabular	Std Temporal
BENIGN	50,000	0.5220	0.4780	0.3431	0.3431

Key Findings

Top 3 Attacks Using Temporal Expert:

- 1. **BENIGN**: 47.80% temporal, 52.20% tabular (50,000 samples)

Top 3 Attacks Using Tabular Expert:

- 1. **BENIGN**: 52.20% tabular, 47.80% temporal (50,000 samples)

Hypothesis Validation

Overall Summary

- **Mean Tabular Weight**: 52.20%
- **Mean Temporal Weight**: 47.80%
- **Expert Preference**: Balanced
- **Total Samples Analyzed**: 50,000