Technical Report

1 HYPERPARAMETER STUDY

Since the trends on MTR-2 Weeks, MTR-3 Weeks, and MTR-4 Weeks datasets are similar to MTR-1 Week, we show results on MTR-1 Week dataset. Specifically, we explore two hyperparameters:

Minimal Group Size g_m. We evaluate with different minimal group sizes, including 3, 4, 5, and 6. Figure 1 (a) shows that the performance improves with an increase in g_m up to a certain point (i.e., 5), after which it achieves the best results. The reason is that a larger group size results in patterns that have more passengers moving together, which is easier to be detected.

Dimensionality d of Hidden State. We investigate the effect of varying the dimensionality of the hidden state, choosing values from 256, 512, 1024, and 2048. Figure 1 (b) shows that beyond a certain point (i.e., 512), increasing d leads to degradation due to the overfitting problem.

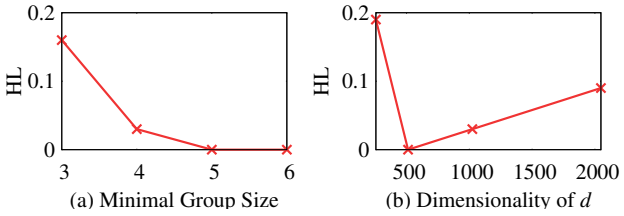

Fig. 1. Hyperparameter study of our model.

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