COMP 4222 Project Report

Spatia Temporal Attention Graph Network (STAGN) for Traffic Prediction

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1 Introduction

Urban traffic systems have become increasingly complex, prompting the need for innovative traffic prediction methods. Traditional approaches often rely on historical data and fixed sensor placements, which can limit their effectiveness.

While GMAN: A Graph Multi-Attention Network for Traffic Prediction marks a substantial advancement in this field, there remain critical areas for enhancement. This project seeks to refine GMAN by addressing these limitations, thereby amplifying its efficacy in traffic forecasting. Enhancing GMAN is vital for smart city initiatives, advanced traffic management systems, and comprehensive urban planning. By improving the precision of traffic predictions, we can significantly alleviate congestion, optimize transportation resources, and elevate overall urban mobility.

2 BackGround