COOPERATIVE AND UNIFIED SMART TRAFFIC SYSTEM

The CoopeRative and UnIfied Smart Traffic SystEm (CRUISE) smart traffic light control system paves the way for smoother traffic and pedestrian flow

Challenge

Every day, the pulse of traffic lights allows Singapore's residents to safely reach their destinations. However, there is an opportunity to elevate the experience for both pedestrians and motorists, making Singapore's traffic infrastructure more efficient, safe, and secure.

Our Solution

The Institute for Infocomm Research (I^2R) at A*STAR has collaborated with the Land Transport Authority (LTA), to develop a smart traffic light control system called the CoopeRative and UnIfied Smart Traffic SystEm (CRUISE).

Built locally, CRUISE is designed to integrate seamlessly with the existing and future plans of Singapore's traffic management ecosystem. Through a network of sensors, the system will enhance the optimisation of traffic lights and pedestrian crossing timings for smoother traffic and pedestrian flow. Information from sensors can also distinguish between vehicle sizes and movement speed to enable priority movement for public transport and emergency vehicles.

Powered by real-time citywide datasets from sensors and traffic information, CRUISE uses AI and Big Data to track the location and intensity of incidents like accidents or roadblocks to mitigate road conditions as well as quickly manage the smooth flow of traffic.

Summary

- Provides a comprehensive understanding of real-time road and traffic conditions
- Fast and automated detection of abnormal traffic events
- Reduces travel time and enables faster journeys
- Better fuel savings for vehicles
- Smoother traffic and pedestrian flow

Potential Applications

- Can support other systems like fleet management systems and route guidance
- A network wide route guidance system that aims to coordinate the management of congestion due to unplanned incidents such as accidents is also in development

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