

Research on collision generation and dissipation mechanism based on naturalistic driving data

Overview

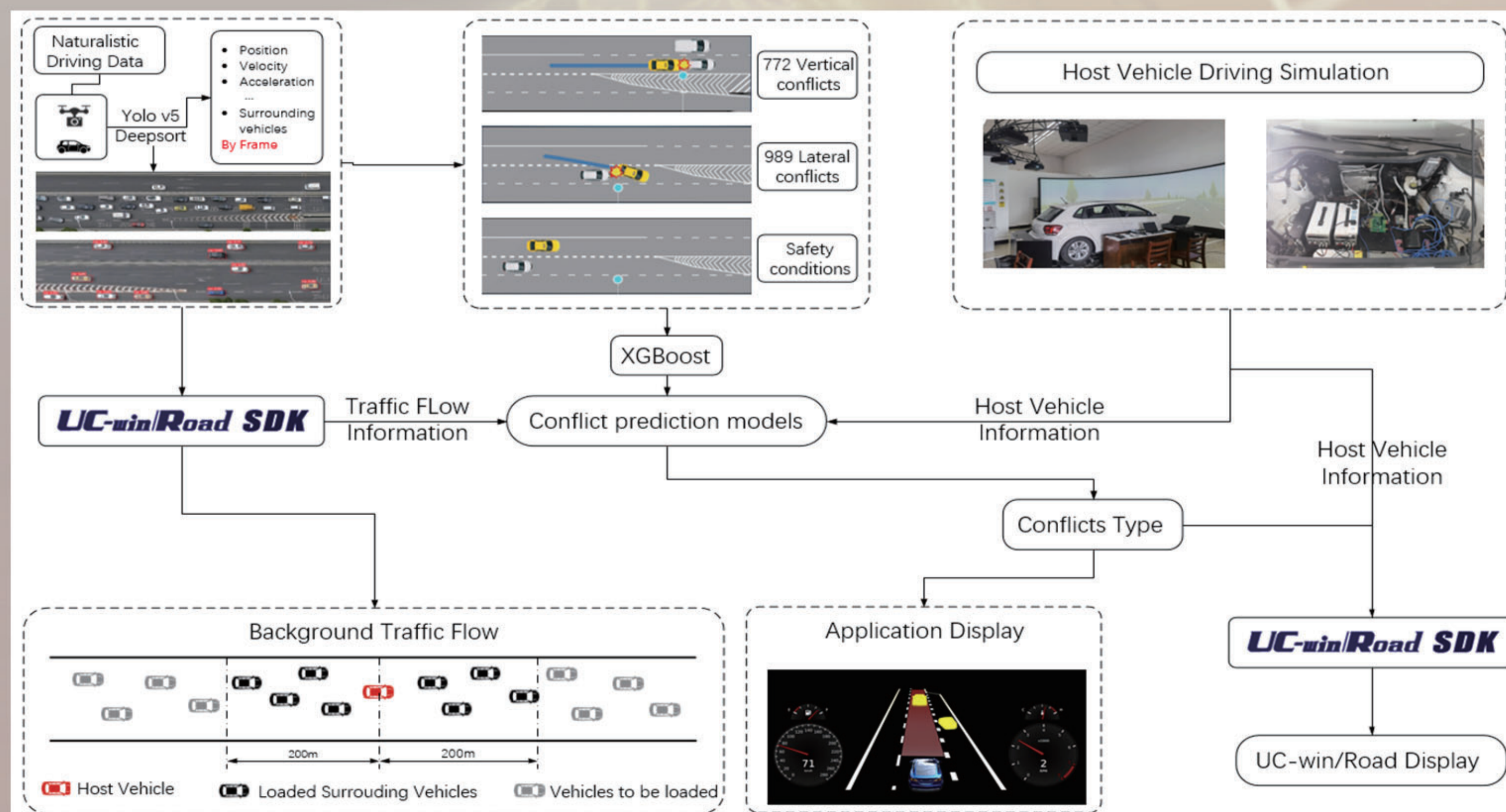
The plug-in we developed has two main functions, one is to generate background traffic flow based on the processed natural driving data, making the driving experience more realistic; the other is to provide real-time feedback on conflict warning information and display it to the in-vehicle terminal and UC-win/Road to alert the driver.

System Design Goal



1. Build a database of naturalistic driving trajectories based on target detection and trajectory correlation.
2. Write plug-ins to generate realistic background traffic flows in UC-win/Road based on natural driving trajectories data.
3. A conflict prediction model is trained, using plug-ins to obtain information from the driving simulation platform, UC-win/Road to input into the model and return results.
4. Conflict warning messages are displayed to UC-win/Road using a plug-in and to in-car terminals using a developed application.

System Components



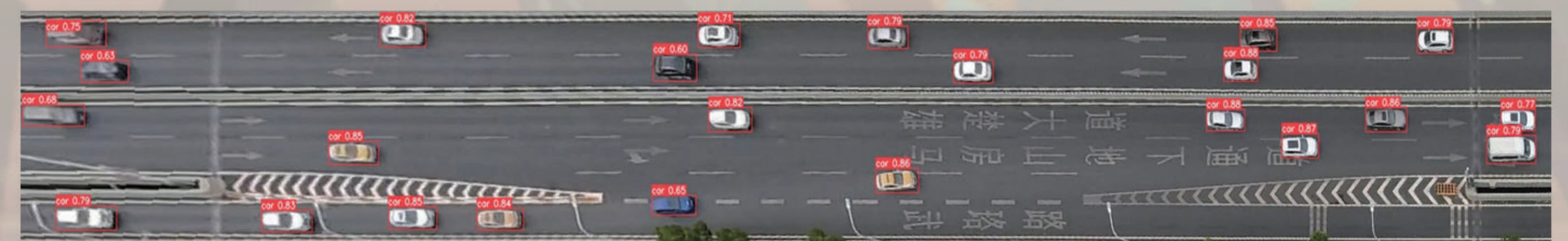
Issue warning

Issue warning messages to improve driving safety

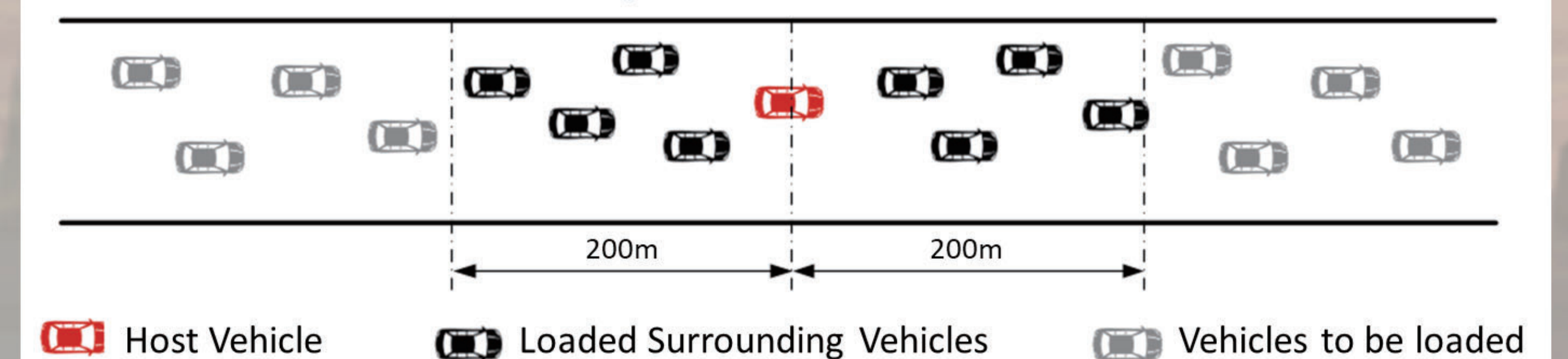


Future Tasks and Ideas

1. Write plug-ins to generate realistic background traffic flows in UC-win/Road based on natural driving track data.



Background Traffic Flow



2. Increase the speed of sending and receiving information throughout the system and display richer warning information in the UC-win/Road.