

Intelligent Platform for Fleet Operations

Keywords:

- Driving behavior, emotion analysis, facial expression, vocal emotion, video analytics
- Routing, scheduling, fleet management

Problems addressed

- The driving behavior of drivers, especially those of public transportation, are critical to safe driving
- The emotion and behavior of said drivers are also critical to the safety of all passengers
- Inefficient scheduling and routing would add costs to a fleet's operations

ASTRI's developed an intelligent platform to address driving safety and operational efficiency of a vehicle fleet. By analyzing driving behavior as well as the driver's own actions at the wheel, dangerous driving habits on the road can be identified while the driver's own behavior can also be monitored. Dangerous driving habits, such as getting the vehicle too close to vehicles or pedestrians in front, may lead to accidents. Furthermore, undesired driver behavior such as talking on the phone, dousing off or emotional outburst may jeopardize all passengers' safety, actions that would warrant an alert to the driver. Last but not least, the platform also helps the vehicle fleet in scheduling and routing, targeting courier or special transportation services.

Innovations

Innovations of the Intelligent Platform for Fleet Operations include

- **Video analytics + data analytics** for detection and analysis of undesired driving behavior
- **Facial expression analysis and audio analysis** for detection and analysis of driver's behavior and emotion
- **Scheduling and routing** for optimization of a vehicle's run based on pick-ups and drop-off points, as well as traffic and road conditions

Key impact

- Improved driving safety by detecting risky driving habits
- Improved driving safety by alerting driver of undesired behavior and emotion display
- Improved operational efficiency of a vehicle fleet

Innovation snapshot



Project completed

- Data and Video Analytics on Driving Behavior (ARD/208), September 2018
- Intelligent Platform for Fleet Operations (ART/295), August 2021

Applications

- Driver training for fleet companies
- Driver monitoring for public transportation
- Routing/scheduling for vehicle fleets

Patent(s)

- US App. No. 17/402,643;
- CN App. No. 202180002508.3 and
- HK App. No. 62022052397.6

[ASTRI Patent Search](#)

Commercialisation opportunities

- IP licensing
- Contract research

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