



THE OHIO STATE
UNIVERSITY

COLLEGE OF ENGINEERING



Reminding Drivers of the Stalking Vehicles on the Road

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Vehicle Stalking on the Road



Why do Drivers Get Stalked?

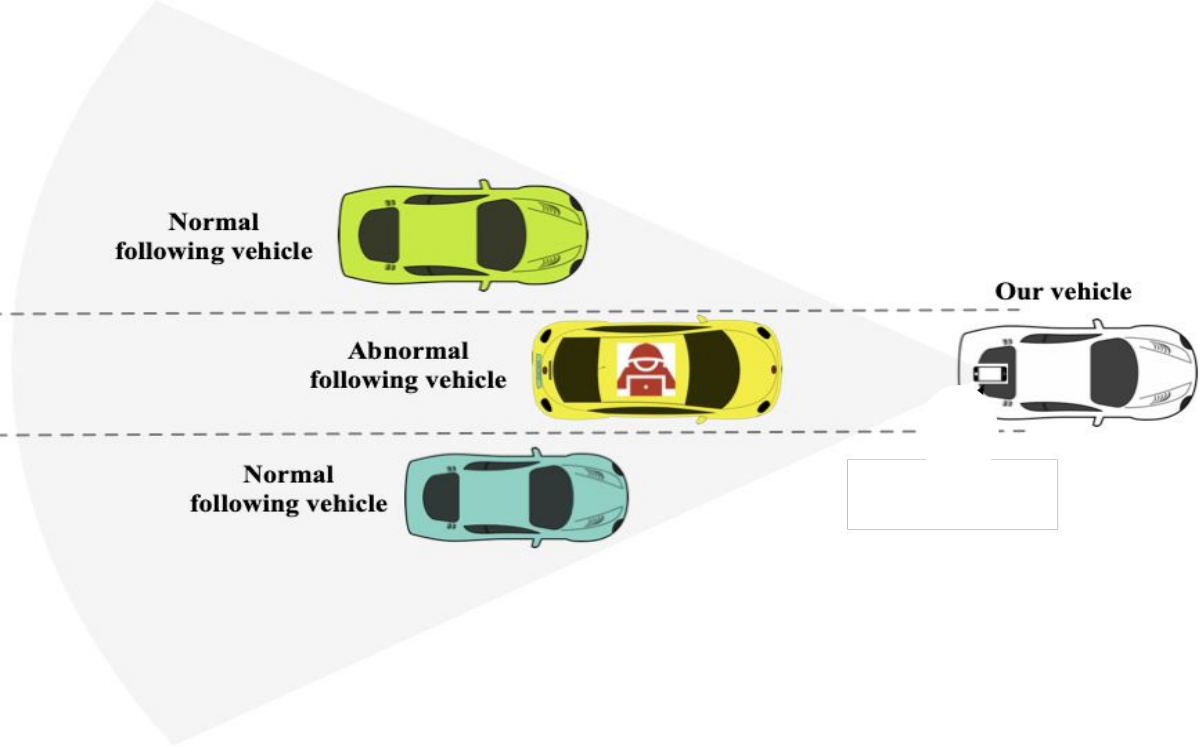
1. Road rage
2. Stalking celebrities/politicians with vehicles on the road for breaking news
3. Detectives stalk suspects for crime investigation

Threats of Stalking Vehicle

- 1. Location privacy**
- 2. Safe driving**

It's important to remind drivers of stalking vehicles on the road

P2D2: Privacy-Preserving Defensive Driving



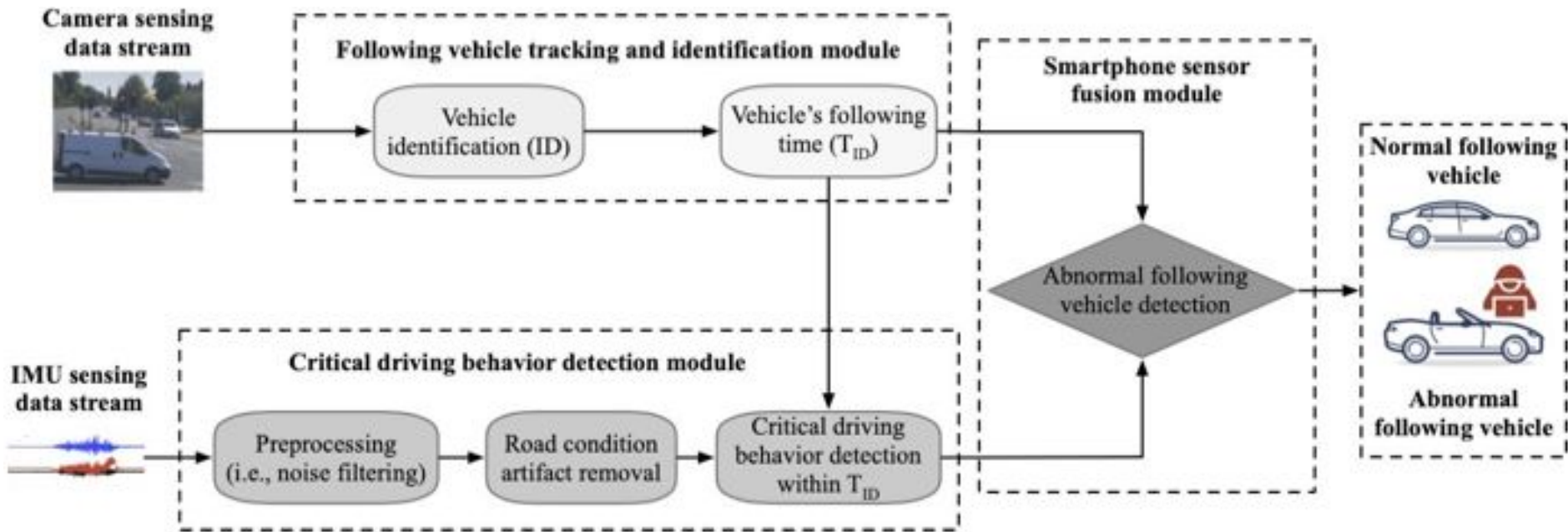
The stalking vehicle will follow us whenever and wherever we drive

Multimodal Sensing

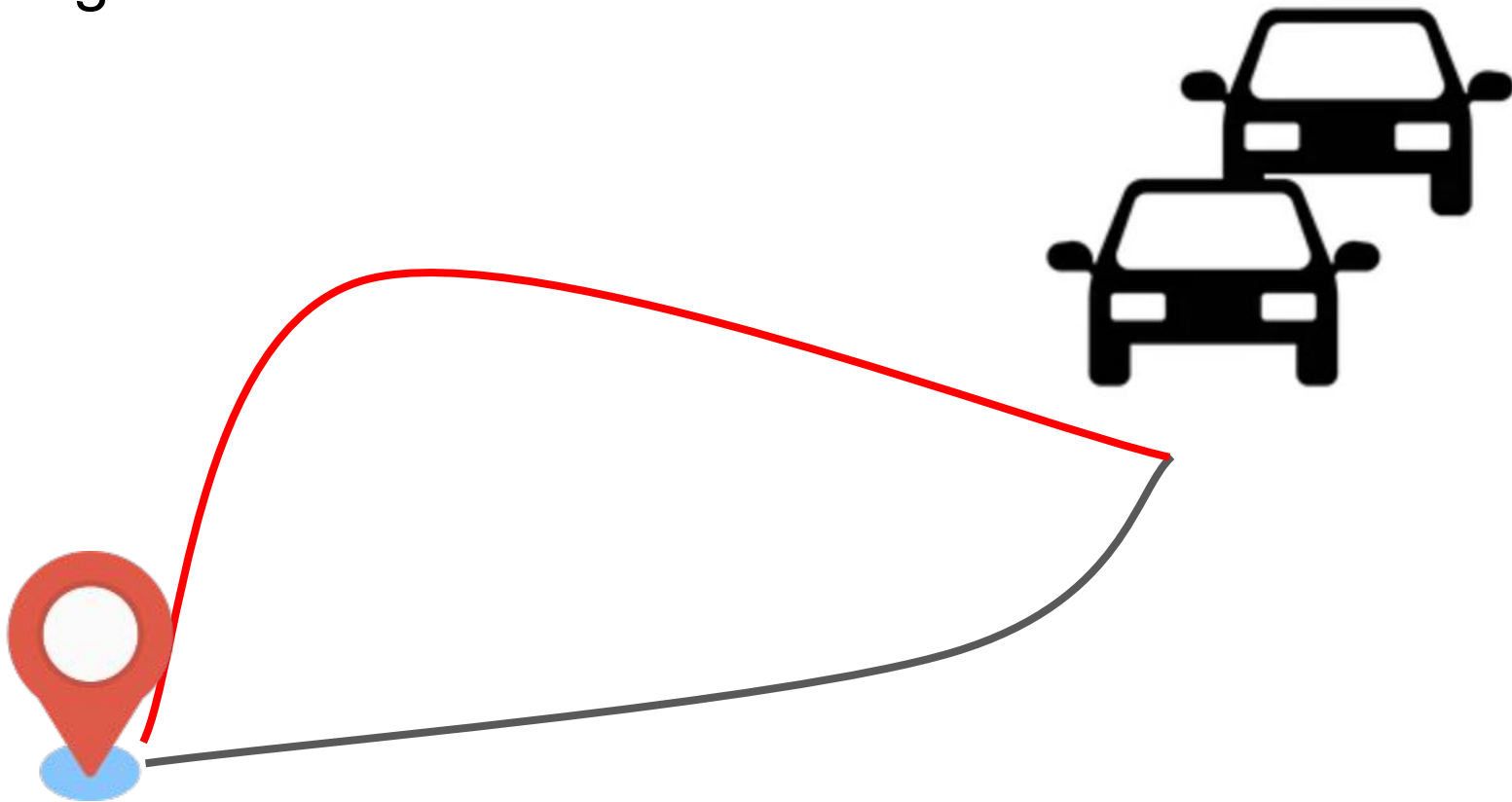
1. Following time

2. Critical driving behaviors (e.g., left/right turns)

P2D2 Framework



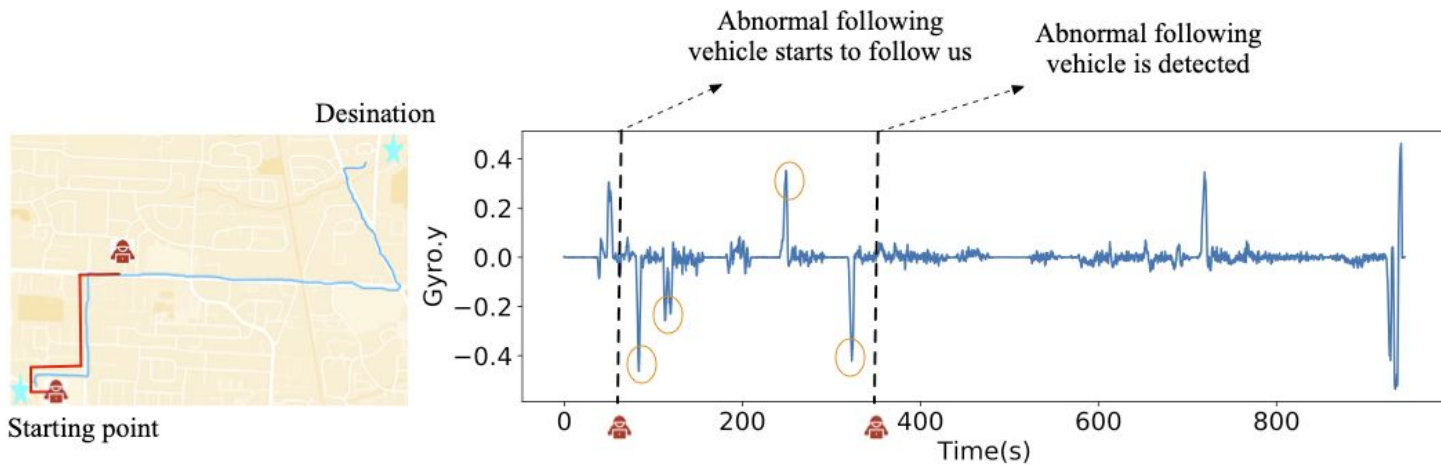
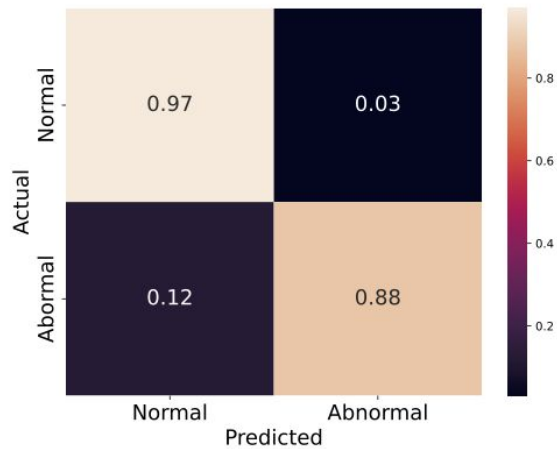
Making a Reroute



Experimental Settings

1. We use smartphones deployed at the back dashboard of the vehicle
2. Smartphone uses BVR for video recording and Phyphox for IMU sensing data collection
3. For normal following vehicles, we just drive vehicle for our daily traffic commute
4. For abnormal following vehicles, there is one vehicle deliberately following our vehicle

Results



Conclusion

1. Stalking vehicle detection
2. Multimodal sensor data fusion for abnormal following vehicle detection

THANK YOU

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