How's My Driving: Sensing Driving Behaviors by Using Android Devices

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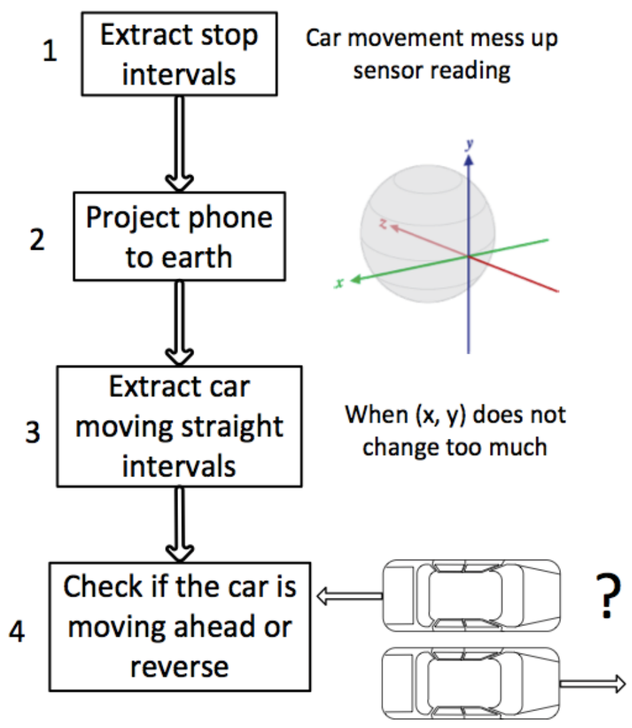
Motivation

- 10.8 million car accidents in 2009, which means 1 in 27 each year [US Census Bureau]
- 44,757 annual death, which means 1 in 84 death during lifetime [National Safety Council]
- Driver may not always realize how dangerous they are: distracted or drunk or poor skills

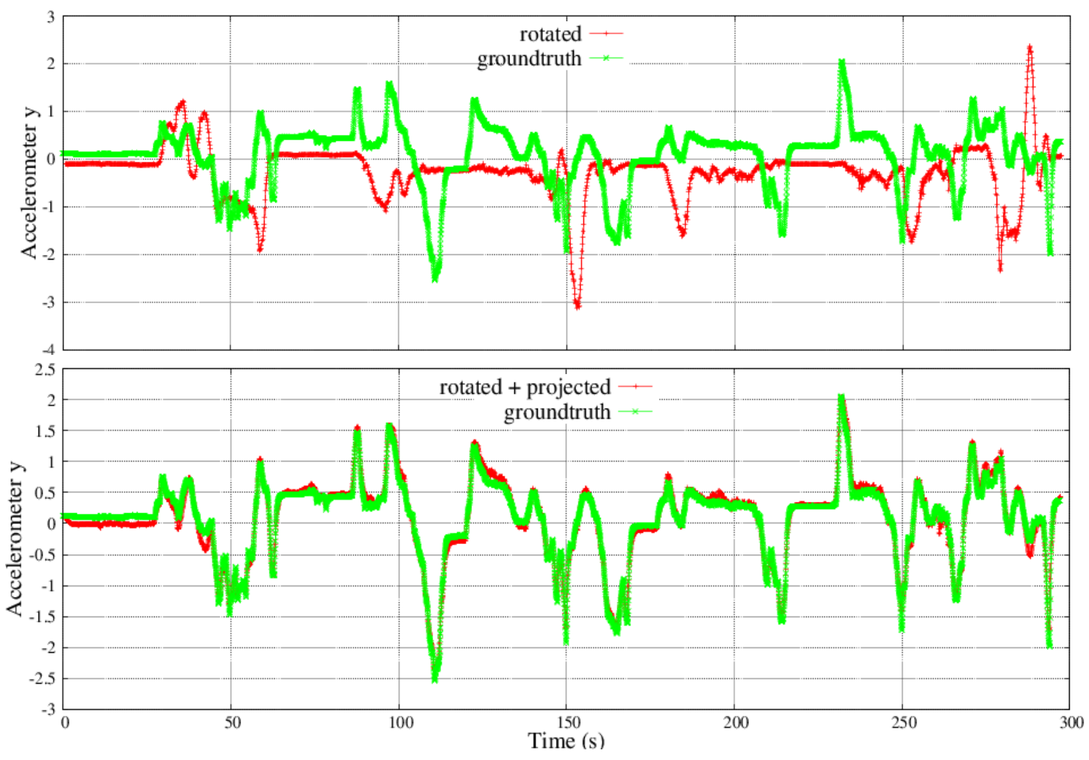
Rating System Highlights

- Rating the driving quality of the drivers
- Smart phone/tablet build-in sensors: Accelerometer, Gyroscope
- Movement-aware coordinate projection: works under arbitrary device rotation
- Comparing with passenger ratings: as smart/justice as human beings

Coordinate Projection

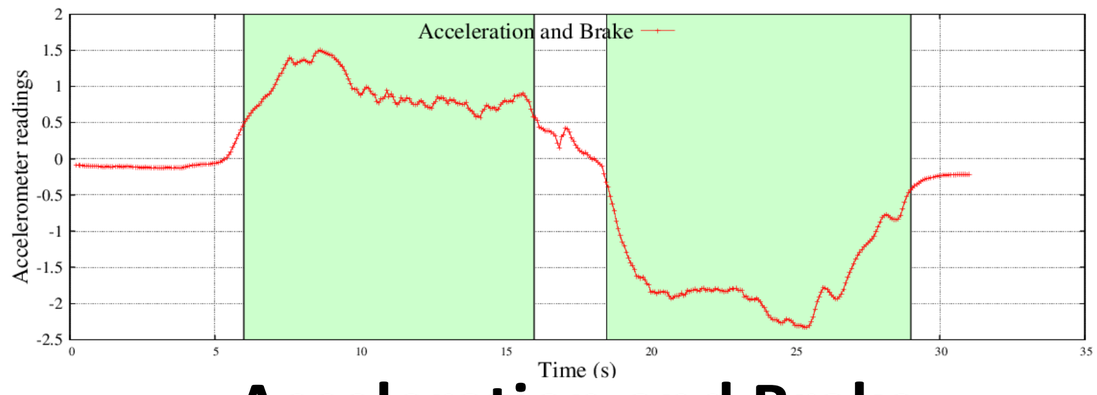


Projection Steps

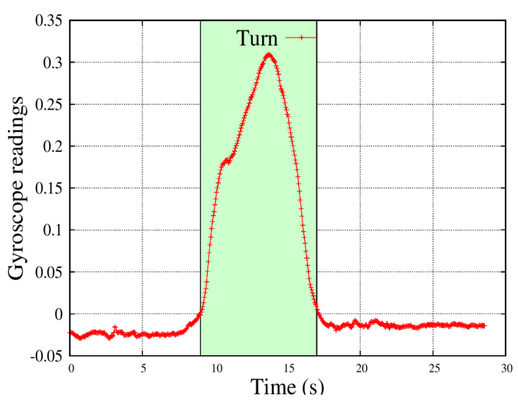


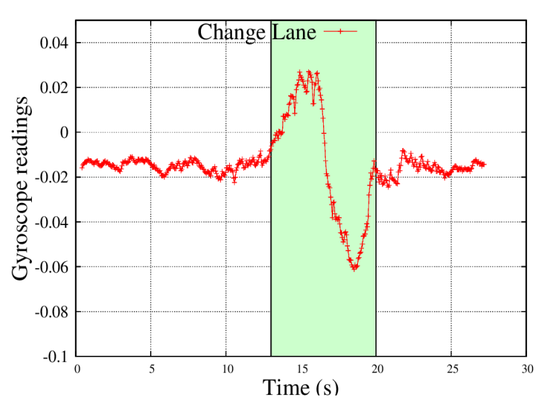
Projection Results

Driving Behaviors

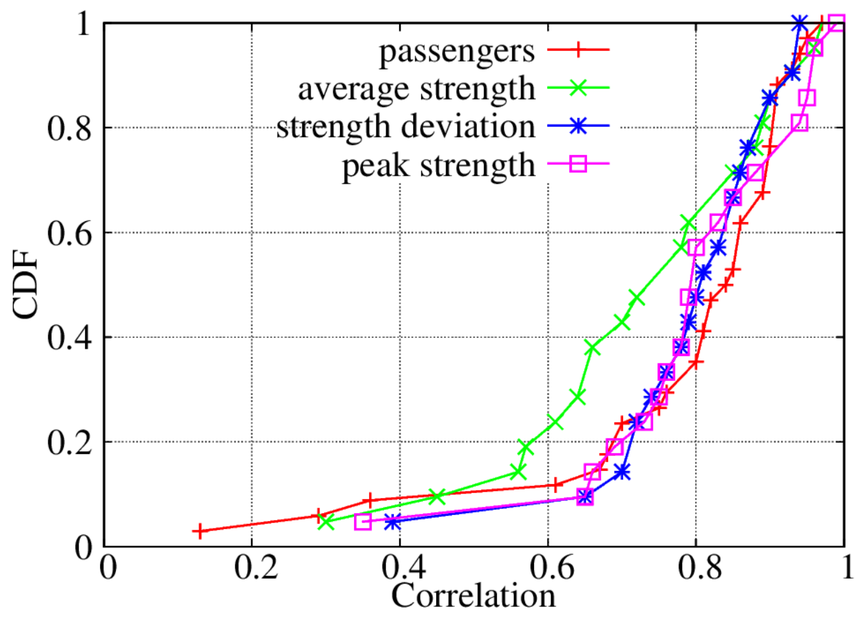


Acceleration and Brake





Turn and Lane Change



Correlation Between Passengers and Our system

Call For Volunteers

1. We send a tablet to your office
2. You put it in your car, and drive a couple of days
3. We get the tablet back from your office
4. We will let you know how's your driving, and how to earn a discount on car insurance

Talk to us off-line or send us an email at lkang@cs.wisc.edu and/or suman@cs.wisc.edu