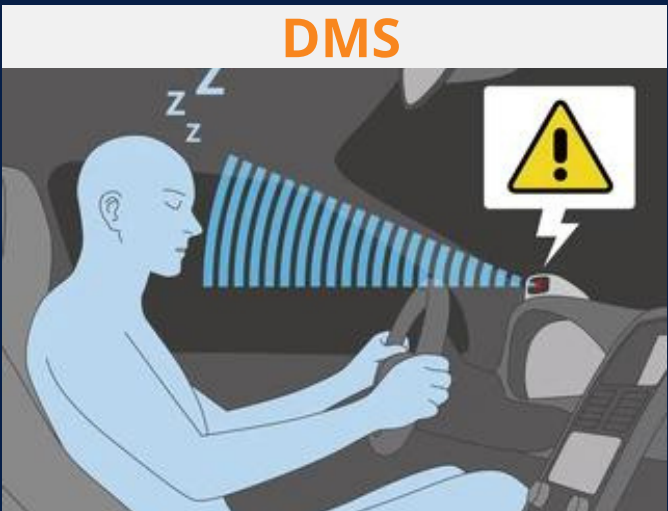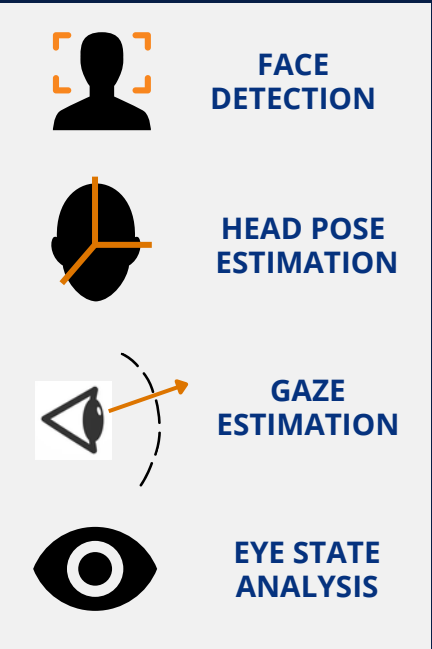# 4 WAYS AI IS TRANSFORMING DRIVER SAFETY AND COMFORT

1 DRIVER DROWSINESS AND DISTRACTION DETECTION

DMS FOR DRIVER STATE MONITORING
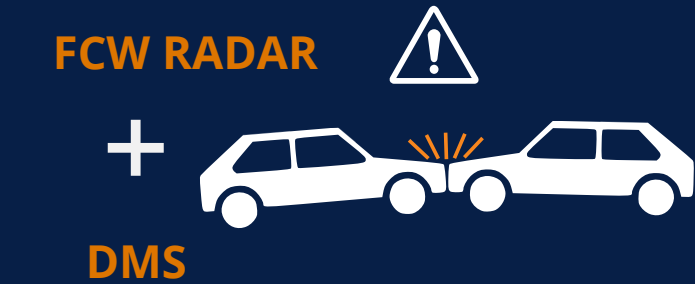
DRIVER MONITORING SYSTEM (DMS) app triggers alerts to the driver in case of drowsiness detection and other distractions

DMS

FACE DETECTION

HEAD POSE ESTIMATION

GAZE ESTIMATION

EYE STATE ANALYSIS

BODY KEYPOINT TRACKING keeps an eye on how the driver interacts with objects or the interfaces of the vehicle

EARLY WARNING SYSTEM

FCW RADAR

+

DMS

Late fusion on multi-modal data streams to increase the reaction time of the driver

VITAL SIGN DETECTION

EMBEDDING MMWAVE technology in the driver seat helps with detecting vital signs

2 IN-CABIN OCCUPANCY DETECTION

RADAR SYSTEM in the cabin can detect even the faintest breathing movement in humans

CHILD OCCUPANCY DETECTION AND WARNING SYSTEM Sends out warning signal if a child is trapped or left unattended

MINIMIZING OCCUPANT INJURIES DURING COLLISIONS Sensor detect strength of a collision and maximize occupant protection

3 IN-CABIN NOISE SUPPRESSION

USE OF AI IN AUDIO PROCESSING Improves speech to noise ratio (SNR)

DEEP LEARNING MODEL Deep learning model trained on multiple noise profiles

4 ANALYSING ROAD CONDITIONS FOR ROAD SAFETY USING SMART PUBLIC INFRASTRUCTURE

REAL-TIME DETECTION OF ROAD CONDITIONS

AI BASED PREDICTION helps drivers to gauge their routes to avoid congestion or hazards

ROAD CONSTRUCTION

VEHICLE CRASHES

MONITORING SPEED LIMITS

ROAD CLOSURES

ignitarium
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