#### Sensor

- + initializeDriver(int): void
- + getSensorData(): void
- + generateSensorData(): void
- + parseSensorData(): void
- + convertMeterToInches(): void
- + setSensorType(): void
- + getSensorType(): string
- + setNumberOfSensors(int): void
- + setSensorDeviceID(): void
- + getSensorDeviceID(): void
- + getTimeStamp(): void

# UltrasonicSensor

- sensorData : int [1..\*]
- deviceID : int [1..\*]
- sensorType : string
- timeStamp : string
- sensorGain: int
- sensorMaximunRange : int
- numberOfSensors : int
- ultrasonicSensorFront : int
- ultrasonicSensorBack : int - ultrasonicSensorLeft : int
- ultrasonicSensorRight : int
- + setMaximumRange( int ): void
- + setGain( int ): void
- + initializeDriver(int): void
- + getSensorData( ): UltrasonicSensor
- + generateSensorData(): void
- + parseSensorData(): void
- + convertMeterToInches( double ): void
- + setSensorType( string ): void
- + getSensorType(): string
- + setNumberOfSensors(int): void
- + setSensorDeviceID( int ): void
- + getSensorDeviceID(): int
- + getTimeStamp(): string

#### SensorFusion

- fusedSensorFwd : int
- fusedSensorBack : int
- fusedSensorLeft : int
- fusedSensorRight : int
- + fuseSensorsData(): void
- + outputFusedSensorData(): void

### ObstacleAvoidanceModule

- frontObstacle : bool = false
- backObstacle : bool = false
- leftObstacle : bool = false
- rightObstacle : bool = false
  - + detectObstacle(): bool
  - + avoidanceOn(): void
  - + avoidanceOff(): void

## MotorController

- fwdSpeed : int = 0
- bckSpeed : int = 0
- leftSpeed : int = 0
- rightSpeed: int = 0
- + moveForward(): void
- + moveBackwards(): void
  - + moveLeft(): void
  - + moveRight(): void

# LaserSensor

- sensorData : int [1..\*]
- deviceID : int [1..\*]
- sensorType : string
- timeStamp: string
- numberOfSensors : int
- ultrasonicSensorFront : int
- ultrasonicSensorBack : int
- ultrasonicSensorLeft : int
- ultrasonicSensorRight : int
- + initializeDriver(int): void
- + getSensorData(): UltrasonicSensor
- + generateSensorData(): void
- + parseSensorData(): void
- + convertMeterToInches( double ): void
- + setSensorType( string ): void
- + getSensorType(): string
- + setNumberOfSensors(int): void
- + setSensorDeviceID( int ): void
- + getSensorDeviceID(): int
- + getTimeStamp(): string