IEEE AV Decision Making Working Group: Overview of 2023 Projects

January 2023
Working Group Overview

WG Name: Formal Model for Safety Considerations in Automated Vehicle Decision Making

WG Leadership
- Chair - Kevin Gay (Uber)
- Vice Chair - Francesca Favaro (Waymo)
- Secretary - Chris Becker (Zoox)

Public Website
https://sagroups.ieee.org/2846/
2022 WG Key Accomplishments

Published IEEE Standard for Assumptions in Safety-Related Models for Automated Driving Systems

Published Literature Review On Kinematic Properties Of Road Users For Use On Safety-Related Models For Automated Driving Systems

2023 New WG Projects


Project Type: Amendment to the Base 2846:2022 Standard
Task Force Lead: Qiming Zhao (Denso)
Projected Completion: Q1 2024

IEEE 3321: Recommended Practice for the Application of Assumptions on Reasonably Foreseeable Behavior of Other Road Users

Project Type: Recommended Practice Related to the Base 2846:2022 Standard
Task Force Lead: Scott Schnelle (Waymo)
Project Completion: Q1 2024
**P2846a: Additional Scenarios and Road Users**

**Scope:** For the additional scenarios and road users, this standard defines a minimum set of assumptions regarding reasonably foreseeable behaviors of other road users to be considered in the development of safety-related models for an ADS.

The scenarios reflected in this standard include those related to *road geometry changes* (e.g., lanes merging), and *specific behaviors of other road users* (e.g., lane change).

This standard further provides *guidelines for the composition of more complex scenarios and associated assumptions* based on the identified initial set.

This standard does not prescribe any specific on-road behaviors expected of an ADS when encountering any of these additional scenarios or road users.
Scope: This recommended practice provides guidelines for using the IEEE 2846-2022 standard during development and testing of Automated Driving Systems (ADS). Specifically, it covers:

1. Approaches to identify the applicable IEEE 2846-2022 scenario(s), associated scenes and ODDs of interest, and safety-relevant agents;
2. Approaches for determining the applicability of assumptions for the given scenario(s)/scene(s) and safety-related agents (from (i) above) and for updating these assumptions across the temporal evolution of a scenario; and
3. Approaches to qualify and validate assumptions (i.e., toward identifying values/ranges) from IEEE 2846-2022 considering different kinds of performance targets of interest.
How to Get Involved in WG?

There are a couple ways to get involved in the development of these two new projects:

1. Attend one WG meeting as an observer or presenter of content
2. Join IEEE Standards Association as an Entity Member and become a member of WG
3. SAE ORAD Members will be able to provide feedback on draft materials shared through a liaison agreement

Questions? Email kgay@uber.com

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