

World's largest scenario database for Automated Vehicles is now open to public -Safety Pool™ Scenario Database

Experts at WMG at the University of Warwick & Deepen AI, launched creditbased access to the largest public store of scenarios for testing automated vehicles

SANTA CLARA, CALIFORNIA, UNITED STATES, September 22, 2022 /EINPresswire.com/ -- Safety remains one of the biggest challenges around self-driving vehicles. Driven by <u>Safety</u> <u>Pool™</u>'s vision of safety of self-driving vehicles being pre-competitive, the Safety Pool™ Scenario Database has created an ecosystem to enable sharing of test scenarios amongst organisations worldwide.



The Safety Pool[™] team at the Driving Simulation Conference (DSC) 2022 Europe in Strasbourg, France

- Safety Pool[™], led by <u>WMG at the University of Warwick</u> and <u>Deepen AI</u>, launches public access to the over 250,000 scenarios via a credit system
- Organisations can now earn credits for their scenario contributions to the database
- Credits can be used to access the entire set of scenarios in the database
- UK's Vehicle Certification Agency is evaluating the use of Safety Pool[™] as part of future type approvals of Automated Vehicles

The database provides a large range of scenarios in different operational design domains (ODDs i.e., operating conditions) that can be leveraged by governments, industry, and academia alike to test and benchmark Automated Driving Systems (ADSs). Bolstered by scenarios generated by novel scenario generation methods: 1) knowledge-based and 2) data-based, a methodology also mentioned by the EU's Regulatory Act on Automated Driving Systems, scenarios in Safety Pool™ are focused on uncovering failures in automated vehicles as they capture those edge-case scenarios.

Under the credit system, users are rewarded with credits for submitting scenarios to the database. Contributions are scored based on the uniqueness of the scenarios and their validity, and corresponding credits are awarded to the organisation. These credits can be redeemed to

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By contributing & working within the Safety Pool[™] framework, commercial stakeholders across AV fleet operators, OEMs, Tier 1 and Tier 2+ suppliers can massively accelerate verification & validation." *Mohammad Musa, CEO and Co-Founder at Deepen Al* gain access to more scenarios. This system encourages users to contribute to growing the database and making more scenarios available to the community.

Dr Siddartha Khastgir, Head of Verification & Validation, at WMG, University of Warwick, said: "With the public launch of the Safety Pool™ Scenario Database, we are democratizing critical data that was not easily available in the ecosystem. By aligning with international standards and working closely with regulators and developers in the UK and internationally, we are driven by the mission of making safety of automated vehicles pre-competitive."

Jamie McFaden, Head of Automated Vehicle Technologies Group, Vehicle Certification Agency said: "The Vehicle Certification Agency, the UK's Type Approval Authority, recognises the importance of ODD-based testing and as a result is evaluating the use of Safety PoolTM Scenario Database as part of the Type Approval process for Automated Driving Systems."

Coherent with our mission to align with international standards, today, each scenario has been launched in ASAM OpenScenario 1.1 and ASAM OpenDRIVE 1.6 formats. This provides further interoperability between stakeholders using ASAM OpenX standards for their simulation-based testing of automated vehicles.

The scenarios also cover a diverse set of ODD attributes and manoeuvre types such as urban environments, highways, and under varied environmental conditions where vehicles perform different manoeuvres such as cut-ins, overtaking etc. Use cases supported include Automated Lane Keeping Systems, low-speed shuttle, urban level 4, highway ADAS etc. Scenarios can also be efficiently searched using the ODD and Behaviour tags as per ASAM OpenLabel standard.

With Safety Pool[™], industry, academic, industry and government experts come together to create the standards that will make the operation of automated vehicles safe everywhere. This builds an environment which enables the uptake of automated and autonomous technology in road vehicles.

Mohammad Musa, CEO, Deepen AI, said: "By contributing and working within the Safety Pool™ framework, commercial stakeholders across AV fleet operators, OEMs, Tier 1 suppliers and all other Tier 2+ suppliers can massively accelerate verification & validation as well as share insights & edge cases that are very hard for a single stakeholder to collect by themselves."

Eric Barbier, Head of Safety, Wayve said: "Safety is core to the development of automated vehicles and everything we do at Wayve. As an industry, it is essential that we collaborate around a common ecosystem for safety assurance. Wayve is excited by the opportunity unlocked by the

Safety Pool[™] initiative and we look forward to leveraging its extensive database of curated scenarios."

Since the launch of this pioneering project in March 2021, WMG at the University of Warwick and Deepen AI has collaborated with stakeholders around the world. To date, over 450 organisations have enrolled in the Safety Pool™ Scenario Database. The next step in WMG's activity is working closely with regulators in the UK and internationally on enabling safety assurance for automated vehicles through the Safety PoolTM Scenario Database.

Dr Maria J. Alonso, Lead, Automotive in the Software-Driven Era Initiative, World Economic Forum said: "Collaboration among stakeholders is key to ensure that autonomous vehicles offer the highest possible levels of safety. The Safety Pool™ Scenario Database, with its over 250,000 scenarios and its collaborative approach, provides a platform to contribute to safer mobility on our roads."

The development of the Safety Pool[™] Scenario Database was funded by UK's Centre for Connected & Autonomous Vehicles (CCAV), Innovate UK and Zenzic funded Midlands Future Mobility project led by WMG, University of Warwick. Furthermore, the WMG centre for High-Value Manufacturing Catapult has further supported the continuous enhancements of the database with its support to the Verification & Validation team at WMG.

About WMG, University of Warwick

WMG is an academic department at the University of Warwick and is the leading international role model for successful collaboration between academia and the public and private sectors, driving innovation in science, technology and engineering, to develop the brightest ideas and talent that will shape our future. WMG is one of the seven UK High-Value Manufacturing Catapult centres, leveraging research expertise to help drive innovation in UK manufacturing. www.warwick.ac.uk/fac/sci/wmg

About Deepen Al

Deepen AI is a Silicon Valley-based startup and the only safety-first data lifecycle tools and services company focused on machine learning and AI for autonomous systems.

About Wayve

Wayve is on a mission to reimagine autonomous mobility through embodied intelligence. We are the first to deploy autonomous vehicles on public roads with end-to-end deep learning. We are pioneering the AI software, lean hardware, and fleet learning platform for AV2.0: a nextgeneration autonomous driving system that can quickly and safely adapt to new driving domains anywhere in the world.

Mohammad Musa Deepen Al +1 650-560-7130 This press release can be viewed online at: https://www.einpresswire.com/article/592077651

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