Velodyne Expert Discusses How Lidar Simulations Advance Automated Driving Solutions Testing at NVIDIA GTC 2021 Global Event

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Andrei Claudiu Cosma Highlights Essential Role of Lidar Simulations in Development and Validation of ADAS and AVs

SAN JOSE, Calif.--(BUSINESS WIRE)--Apr. 7, 2021-- Simulations have an important role in developing and testing advanced driver assistance systems (ADAS) and autonomous vehicle (AV) capabilities. Andrei Claudiu Cosma, PhD, Autonomous Solutions Manager at Velodyne Lidar, Inc. (Nasdaq: VLDR, VLDRW), will discuss how developers can use lidar simulation to replicate real-world driving scenarios to validate the safety and reliability of ADAS and AV solutions during NVIDIA's annual GPU Technology Conference, GTC 2021.

This press release features multimedia. View the full release here: https://www.businesswire.com/news/home/20210407005209/en/

Andrei Claudiu Cosma of Velodyne Lidar will discuss how developers can use lidar simulation in ADAS and AV solutions during NVIDIA's annual GPU Technology Conference, GTC 2021. (Photo: Velodyne Lidar)

The session, called "Lidar-Centric Machine Learning – A Simulator Driven Approach to Model Training, Testing and Validation," takes place on April 10, 2021 at 10:00 a.m. PDT. Register for free to attend the session at https://gtc21.event.nvidia.com/.

Attendees of the session can learn:

- The key characteristics of lidar simulation that improve the authenticity of the generated lidar point cloud. This is extremely important to ensure successful use of the simulated model in the real world.
- The benefits and drawbacks of using real and simulated datasets. These tips can guide developers in making informed decisions when selecting data for their next models to train.
- How using simulated lidar data can help identify object classes with unique lidar signature.

Lidar simulations support faster system development and deployment by providing a virtual environment to test automated driving capabilities in a variety of roadway, weather and lighting conditions. They allow testing of extreme scenarios including corner and edge cases, and potential hazards like emergency braking and obstacle avoidance.

Velodyne's lidar sensors provide real-time perception data that enables safe navigation and reliable operation for autonomous driving and advanced vehicle safety in urban and highway environments. Velodyne has a diverse product portfolio with sensors that provide surround view, directional, long- and close-range capabilities.

The Automated with Velodyne program includes a number of companies that offer simulation solutions optimized for testing Velodyne's lidar sensors in ADAS and AV applications. The combination of Velodyne's high-performance sensors and simulation software enables developers to test and validate solutions in a massively scalable variety of conditions before they reach the road.

"Limited access to training and testing data slows down research and innovation. However, with advances in hardware accelerators, such as GPUs, and development of simulation technologies, new techniques are being developed to generate or augment training data sets. Our GTC session will discuss how a simulator-driven approach can offset limited real data availability to improve development speed and model quality. It will show how this method can reduce costs and enable an improved testing and validation process for a safe deployment," said Cosma.

GTC, taking place online April 12 - 16, is a global conference series focused on AI, data center, graphics, accelerated computing, automotive, intelligent networking and more.

About Velodyne Lidar

Velodyne Lidar (Nasdaq: VLDR, VLDRW) ushered in a new era of autonomous technology with the invention of real-time surround view lidar sensors. Velodyne is the first public pure-play lidar company and is known worldwide for its broad portfolio of breakthrough lidar technologies. Velodyne's revolutionary sensor and software solutions provide flexibility, quality and performance to meet the needs of a wide range of industries, including autonomous vehicles, advanced driver assistance systems (ADAS), robotics, unmanned aerial vehicles (UAV), smart cities and security. Through continuous innovation, Velodyne strives to transform lives and communities by advancing safer mobility for all. For more information, visit www.velodynelidar.com.

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