

LeddarTech Launches PixSet, the Industry's First Full-Waveform Flash LiDAR Dataset

The Leddar PixSet is the industry's first publicly available dataset for ADAS and AD research and development that contains data from a full sensor suite (cameras, LiDARs, radar, IMU), including full-waveform data from a 3D solid-state flash LiDAR sensor

QUEBEC, February 24, 2021 – [LeddarTech®](#), a global leader in Level 1-5 ADAS and AD sensing technology, announces its first publicly available sensor dataset for advanced driver assistance and autonomous driving research and development called the [Leddar™ PixSet](#). This dataset is the first of its kind in the industry to include full-waveform data from LeddarTech's [Leddar™ Pixell](#), a 3D solid-state flash LiDAR sensor. LeddarTech will offer these datasets free of charge for academic and research purposes.

Sensor fusion techniques are widely used to improve the performance and robustness of computer vision algorithms. Datasets such as the Leddar PixSet allow academic and engineering research teams specializing in ADAS and AD technology to use existing sets of sensor data to test and develop advanced software and to run simulations without having to assemble new sensor suites and collect their own dataset.

An instrumented vehicle was utilized in the development of the dataset. The various scenes were recorded in high-density urban and suburban environments as well as on the highway. The data was further augmented through exposure to various weather, lighting (e.g., sunny, cloudy, rainy), and illumination (e.g., day, night, twilight) conditions. The Leddar PixSet provides information from a wide variety of situations, creating real-world data for advanced driver assistance and autonomous driving.

Dataset key features:

- Data from an autonomous vehicle's comprehensive sensor suite
- Includes full-waveform data from 3D solid-state flash LiDARs
- 29k frames in 97 sequences, with more than 1.3M 3D boxes annotated
- Various environments, weather conditions, and times of day
- Open-source API and dataset viewer

The Leddar PixSet was developed with the collaboration of Silicon Valley-based [Deepen AI](#), which provided comprehensive object annotations. These new datasets provide an opportunity for 3D computer vision to go beyond LiDAR point clouds with a full-waveform LiDAR dataset and are now available on the [LeddarTech website](#).

"LeddarTech is now and has always been committed to the advancement of autonomous driving. With the release of the Leddar PixSet, we are taking one step closer to making this dream a reality. By providing these datasets free of charge to scientific and academic communities, LeddarTech is supporting and encouraging the growth and success of autonomous driving and other applications requiring LiDAR technology," stated Pierre Olivier, Chief Technology Officer of LeddarTech.

"Precisely annotated data is key in the technology development of autonomous vehicles and an important step towards achieving safer roads. Integrating Deepen's AI-powered annotation capabilities and LeddarTech environmental sensing platforms for autonomous vehicles, Leddar PixSet provides a diverse set of high-quality datasets to move the community forward," stated Mohammad Musa, Founder & CEO at Deepen AI.

About LeddarTech

LeddarTech is a leader in environmental sensing platforms for autonomous vehicles and advanced driver assistance systems. Founded in 2007, LeddarTech has evolved to become a comprehensive end-to-end environmental sensing company by enabling customers to solve critical sensing and perception challenges across the entire value chain of the automotive and mobility market segments. With its LeddarVision™ sensor-fusion and perception platform and its cost-effective, scalable, and versatile LiDAR development solution for automotive-grade solid-state LiDARs based on the LeddarEngine™, LeddarTech enables Tier 1-2 automotive system integrators to develop full-stack sensing solutions for autonomy level 1 to 5. These solutions are actively deployed in autonomous shuttles, trucks, buses, delivery vehicles, smart cities/factories, and robotaxi applications. The company is responsible for several innovations in cutting-edge automotive and mobility remote-sensing applications, with over 95 patented technologies (granted or pending) enhancing ADAS and autonomous driving capabilities.

Additional information about LeddarTech is accessible at www.leddartech.com and on [LinkedIn](#), [Twitter](#), [Facebook](#), and [YouTube](#).

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