RETINA

NEXT-GENERATION PHOTONICS SENSOR SYSTEM

USE CASE IN AGRICULTURE

MULTIMODAL PROXIMAL SENSING SOLUTION FOR ESTIMATING CRITICAL PARAMETERS IN VITICULTURE.

RETINA will provide a tailored multi-modal monitoring solution to support the implementation of precision viticulture programs.

Sensors (Ground-based systems):

- Short-range LIDAR
- SWIR & VNIR Spectral images

Sensors (Drone-based systems):

- Long-range LIDAR
- SWIR & VNIR Spectral images

RETINA PROJECT aims to create innovative spectral imagers and chip-based LIDAR sensors and combine them in a versatile multimodal perception system.

The mission is to address the critical demand for performance, cost-efficiency, and customization in key sectors by creating a holistic framework for the agile development of machine learning-based perception algorithms and next-generation hardware solutions.

CORE TECHNOLOGIES

- Short- and long-range FMCW LiDARs on chip
- Vis-NIR-SWIR Spectral Quantum Dot Imagers
- Integrated Optical Microfilters
- Ultra-Low-Power Camera Modules
- Ground, Vehicle, and Drone platforms

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