

SYNTHETIC DATASETS

Automotive-grade training and validation data

Our machine learning engineers understand the need for quality ground truth datasets for training and testing modern deep neural networks

ACCURACY

Get reliable results from fewer iterations with our accurate and consistent annotation

DIVERSITY

Global urban and highway environments with various weather and time-of-day

SCALE

Quick, easy, cost-effective scale-up and delivery with our elastic cloud architecture

SOLVING THE TRAINING DATA SHORTAGE

Comprehensive and Flexible

Multimodal datasets comprising the full sensor suite: **Camera**, **LiDAR**, and **Radar**

Accurate, scalable, and configurable sensors

Perception data for diverse conditions



HOW DO WE DO IT

Parameterized Scene Definition

-  **Sensor**
-  **Location**
-  **Weather & Time of day**
-  **Signage, Markings & Props**
-  **Agents**

Photorealistic Rendering




Unparalleled realism

Purpose-built DNNs trained on automotive sensor data

Accurate distortion from real-world measurements



Coverage Summary

 RGB  Annotation  Metadata

Weather Conditions



Time of Day



SOLUTIONS

Object Detection and Classification

2D and 3D bounding boxes with attributes and classification for objects that an autonomous system might encounter



2D Bounding Boxes



3D Bounding Boxes

Traffic Lights, Signage, and Lane Markings

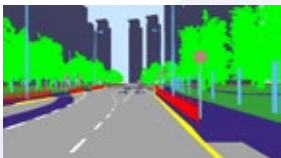
Detailed navigation-necessary elements plus challenging weather, time of day, and degradation conditions



Surface and marking degradation



Accurate traffic signage and signals



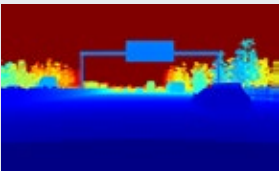
Semantic Segmentation



Instance Segmentation

Full Segmentation

Contextual knowledge with pixel-level segmentation for a wide variety of categories including agents, infrastructure, and spaces



Depth

Pixel-level planar depth information

LiDAR and Radar

Realize higher fidelity perception and longer range detection with annotated point clouds for **LiDAR** and **Radar**



Data Formats

Datasets are delivered in familiar easy-to-use file formats

RGB	JPG/PNG in HD resolution (1920x1080)
Segmentation	JPG/PNG in HD resolution with color
Depth	PNG in HD resolution with 16-bit depth info
LiDar	Bin point cloud
Radar	JSON Target list
Metadata	JSON of scene, sensor and object information

REQUEST
A DEMO



cognata.com/datasets