iMerit

CASE STUDY

40%

INCREASED ANNOTATION ACCURACY

AUTOMATION PLATFORM FOR TRAFFIC LIGHT & PEDESTRIAN DETECTION

This leading automotive supplier needed to improve the interpretive accuracy of its models when identifying traffic lights and vulnerable road users.

THE CHALLENGE

Autonomous vehicles deploy a myriad of technology that enables them to interpret the road and respond to it like a human. This leading automotive supplier's key product was struggling to accurately detect and interpret traffic lights and pedestrians, a fundamental aspect of their autonomous vehicle technology's navigation ability and safety.

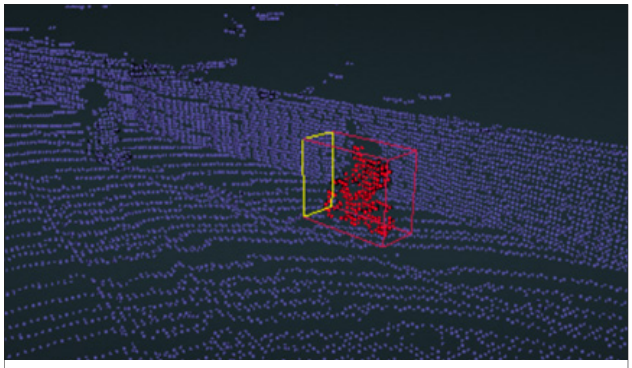
> *We just weren't getting the results we needed to make this project work. Engagements with other vendors were only complicating things.*
>
> - Head of Computer Vision

After repeated attempts to scale annotation efficiently and accurately on their in-house annotation platform, this company chose to work with another data services provider to scale their training data needs. As costs began to mount, it became clear that this annotation provider lacked both the expertise and efficiency to meet the needs of their project. Realizing they needed better tooling and a larger workforce, this company came to iMerit.

THE SOLUTION

To improve traffic light detection, iMerit experts began by addressing a complex array of classification requirements by leveraging Ango, iMerit's end-to-end automation platform for AI data pipelines. iMerit identified 27 unique classification requirements including traffic bulb counts, traffic light size, and other characteristics that were unique to the region their model was being deployed.

Recognizing a need for customization, iMerit experts adeptly tailored Ango's functionalities to accommodate these classifications while introducing advanced versioning and auditing capabilities. From there, annotators focused on enhancing this company's internal point cloud tool by integrating segmentation and cuboid annotation functionalities seamlessly.



3D ANNOTATION OF A CYCLIST

BOTTOM LINE IMPACT

40%
Increased Annotation Accuracy

50%
Time-Per-Task Improvement

> *iMerit had the tooling and the workforce all in-house. It was easy to navigate and scale.*
>
> - Head of Computer Vision

This development included implementation of cuboid directionality, which enabled exportation of key data points into their system. iMerit employed polyline annotation to further enable road boundary detection. After completing these steps, iMerit exported the data into a custom format.

THE RESULT

After implementing the new data into their training datasets, traffic light and vulnerable road user detection improved. For the traffic light detection workflow, iMerit's customized approach not only accommodated diverse classifications but also enhanced data reliability through advanced versioning and auditing capabilities. This ensured that annotations met stringent industry standards including the TISAX certification.

Compared to the previous vendor, iMerit displayed a 40% increase in annotation accuracy coupled with a 50% reduction in time-per-task when compared to previous workflows, thus enabling this company to scale their project like never before. Today, iMerit continues collaborating with this leading automotive supplier to create cutting-edge automotive technologies.

About iMerit

iMerit provides end-to-end data labeling services to Fortune 500 companies in a wide array of industries including agricultural AI, autonomous vehicles, commerce, geospatial, manufacturing, government, financial services, medical AI and technology. iMerit employs more than 5,500 full-time data annotation experts in Bhutan, Europe, India and the United States.

info@imerit.net | imerit.net

LEARN MORE