

How Advanced Annotation Helped to Reduce Manual Take-off Effort by 80% and Enhance Accuracy by 25%



CLIENT OVERVIEW

The client is a leading US-based business intelligence company specializing in data-driven solutions for the construction industry.

PROBLEM

The client wanted to develop a robust object detection and instance segmentation model to automate the identification and quantification of various building components from construction floor plans, streamlining the take-off process and minimizing manual effort.

SOLUTION

Lumina Datamatics utilized its expertise in advanced annotation techniques to deliver a comprehensive solution for this project.

- Gathered diverse construction floor plans across various architectural styles, scales, and complexities.
- Utilized skilled annotators with deep domain knowledge in construction for meticulous object detection and instance segmentation.
- Implemented rigorous quality control measures including automated checks, peer reviews, and expert validations.
- Leveraged Label Studio for enterprise-grade annotation with customizable workflows, collaborative annotation features, and scalable performance.
- Employed advanced techniques including geometric transformations, domain randomization, and synthetic data generation for enhanced dataset diversity.

RESULT

- Delivered a comprehensive, high-quality annotated dataset comprising over 80,000 floor plan images with precise object detection and instance segmentation annotations.
- Enabled the client to train a state-of-the-art deep learning model, reducing manual take-off effort by 80% and improving accuracy by 25%.
- Empowered the client with precise measurements and quantities, enabling accurate cost estimates, optimized material procurement, and enhanced project planning capabilities.

ABOUT US:

Globally, 3 of the top 5 ecommerce retailers and 8 of the top 10 publishers trust Lumina Datamatics as their strategic partner in providing content, data, analytics, and technology solutions. Our clients benefit from reduced time-to-market for new products and services, optimized business processes, operational efficiencies, improved competitiveness, and relevant insights. Lumina Datamatics' expert solutions comprise in-house platforms, partnerships with global technology leaders, and more than 3,500 professionals across Germany, India, the UK, the United States, and the Philippines. This global resource pool services our customers across four continents: North America, Asia, Australia, and Europe.

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