

Scaling and Sizing Examples

1. Scale: 0.1x



CADSpotting: Robust Panoptic Symbol Spotting on Large-Scale CAD Drawings

Jianyu Ma^{1,2*} Fuyi Yang^{1,2†} Yanshan Zhang² Junxiang Zhang^{1,2} Yongjian Luo¹
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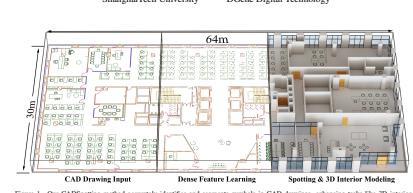


CADDrawing Input Dense Feature Learning Spotted & 3D Interior Modeling

Figure 1. Our CADSpotting method accurately identifies and segments symbols in CAD drawings, enhancing tasks like 3D interior modeling. It also provides a unified point cloud model within a unified point cloud model for robust feature learning during Window Aggregation during inference for efficient panoptic symbol spotting in large-scale drawings. Finally, our method automatically performs 3D interior reconstruction by assembling architectural 3D objects guided by semantic information from CADSpotting.

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3. Scale: 0.3x

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with each floorplan covering around 1,000 m², significantly larger than previous benchmarks. Experiments on FloorPlan3D show that our method outperforms existing methods, significantly outperforming existing methods. We also demonstrate its practical value through automating parametric 3D interior reconstruction, enabling interior modeling directly from raw CAD inputs.

1. Introduction

Architectural Aided Design (CAD) drawings, especially those used for interior design, serve as detailed digital representations that convey essential information about buildings and their internal structures. These drawings include critical elements such as furniture placement, electrical layouts, and spatial organization, ensuring they are fundamental for the design and construction process. For instance, the Shanghai Mercedes-Benz Arena utilizes over 3,000 CAD drawings to guide its structural design.

* Equal contribution. † Corresponding author.

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5. Non-uniform: Tall (0.1x, 0.3x)

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6. Max size: 150x100

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7. Max size: 100x150

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8. Max: 100x100 (square)

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