

PDF Embedding - Comprehension

Scale: 0.05, 0.1, 0.15, 0.2, 0.25

Grid Layouts: 2x2, 3x2, 4x2

Page Selections: All Even, All Odd, First 3, Last 3

Rotation angles: 0°, 30°, 60°, 90°, 120°, 150°

Artistic Arrangement

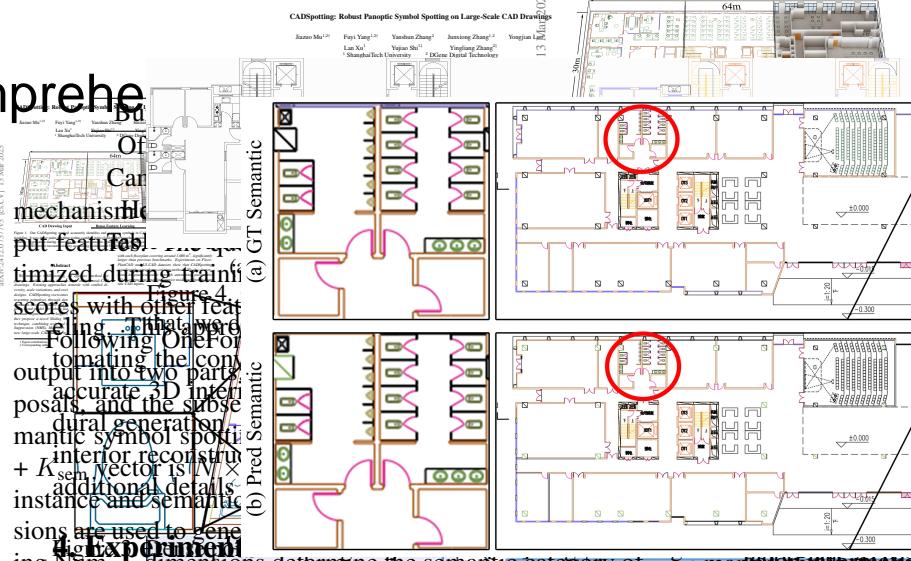


Figure 4. Comparison of semantic symbol spotting results. The figure shows the ground truth semantic symbols and predicted semantic symbols by the proposed method. The predicted symbols are color-coded according to their semantic categories. Red circles highlight specific symbols for closer inspection.

Experiments

The experiments aim to evaluate the performance of the proposed method in terms of symbol spotting accuracy, semantic symbol spotting accuracy, and efficiency. We also compare our method with state-of-the-art methods on the PlanCAD dataset.

Implementation

The proposed framework consists of three main components: a backbone network, feature learning modules, and a decoder. The backbone network processes the input CAD drawings. The feature learning modules extract local features from the input. The decoder generates the final semantic symbol spotting results.

Symbol Spotting Results

The proposed method achieves state-of-the-art performance on the PlanCAD dataset. Table 5 compares the performance of different methods. The proposed method outperforms others in terms of symbol spotting accuracy and semantic symbol spotting accuracy.

Table 5. Quantitative comparison of symbol spotting results on the PlanCAD dataset. The proposed method achieves the best performance.

Feature Learning Methods

Table 6 shows the ablation study on feature learning methods. The proposed method with handcrafted features and SymPoint achieve the best performance.

Table 6. Ablation study on feature learning methods on the PlanCAD dataset. We compare our dense point sampling based feature learning methods with the handcrafted feature representations which are widely used in the literature.

RGB Color Information

Table 7 shows the ablation study on RGB color information. The proposed method with RGB color information achieves the best performance.

Table 7. Ablation study on RGB color information on the PlanCAD dataset. We compare the performance of CADSpot with and without the inclusion of RGB color information.

Ablation Studies

Table 8 shows the ablation study on the proposed model. The proposed model with all components achieves the best performance.

Conclusion

In conclusion, the proposed method achieves state-of-the-art performance on the PlanCAD dataset.