Case Study: Bottleneck Scenario
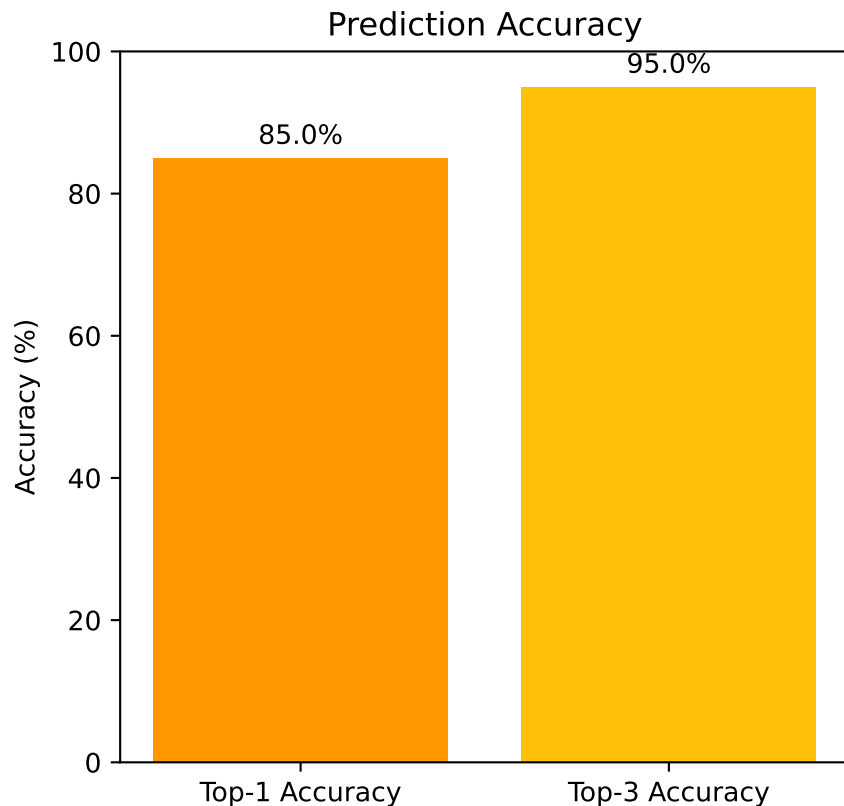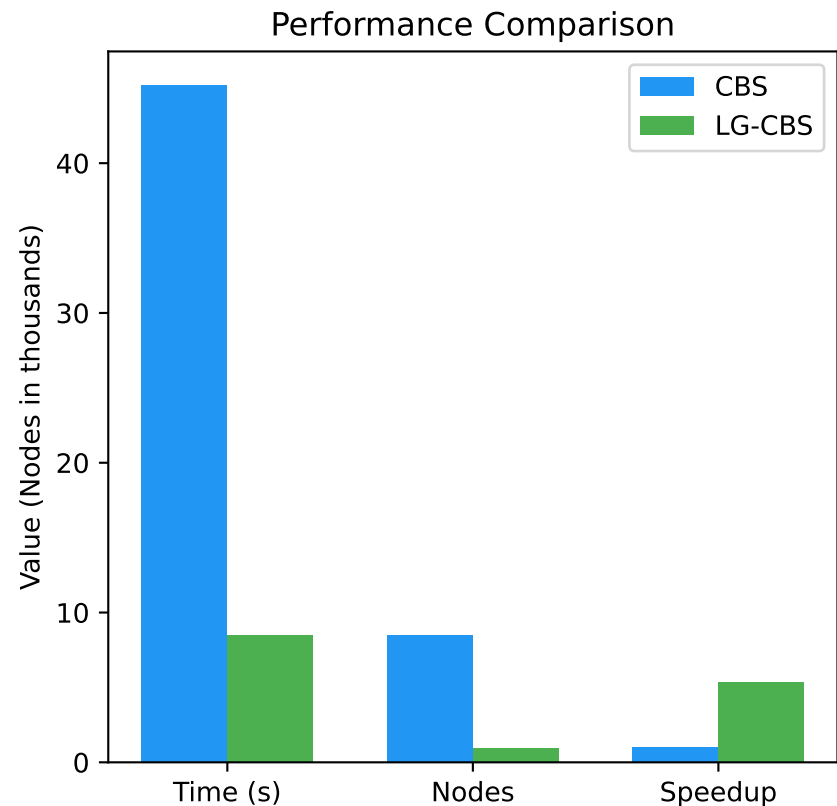## Multiple agents must pass through a narrow corridor, causing significant conflic...

Performance Comparison

Legend: CBS, LG-CBS

Y-axis: Value (Nodes in thousands)

X-axis categories: Time (s), Nodes, Speedup

Prediction Accuracy

Y-axis: Accuracy (%)

- Top-1 Accuracy: 85.0%
- Top-3 Accuracy: 95.0%

Bottleneck Scenario

Key Insights:

• LG-CBS correctly identifies the corridor entry points as high-priority conflicts

• The GNN captures the spatial bottleneck structure effectively

• Transformer ranks conflicts by their downstream impact

• 5.3× speedup achieved while maintaining optimal solution quality