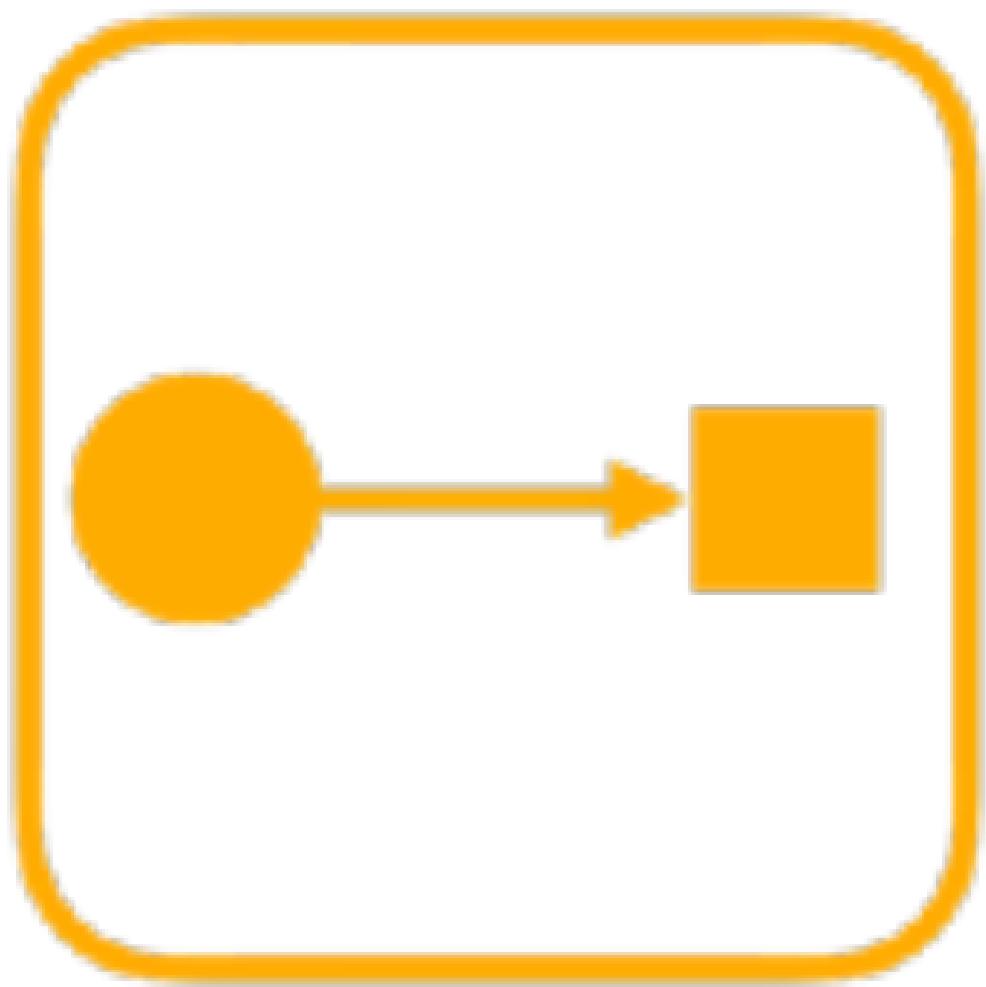
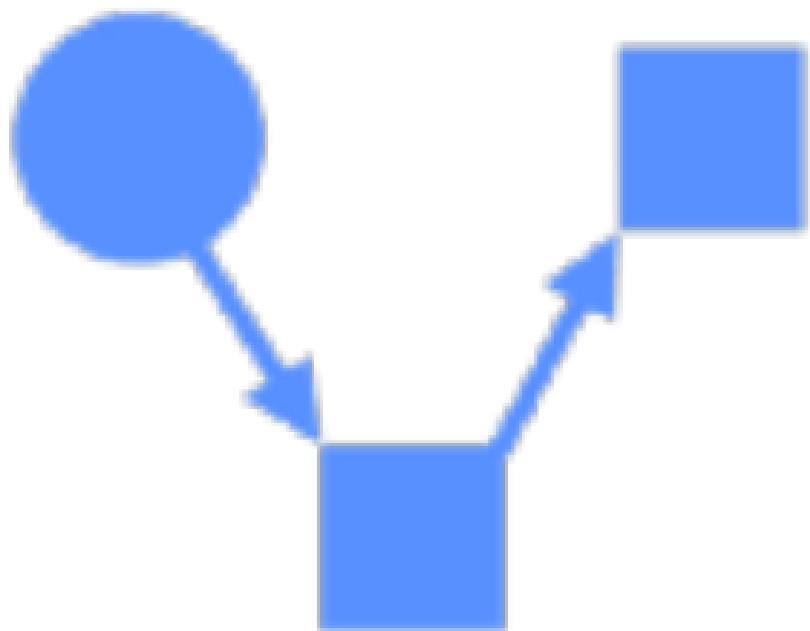


|                       |                            |
|-----------------------|----------------------------|
| <b>Problem</b>        | <b>Scalable</b>            |
| <b>Multiple Goals</b> | <b>Conflicts Forbidden</b> |









**Problem**

**Multiple Goals**

**Scalable**

**Conflicts Forbidden**

**LaCAM**  
[Okumura+ AAAI-23]

Vertex, Edge,  
No  
Swap

**Yes**

| <b>Problem</b>                     | <b>Multiple Goals</b> | <b>Scalable</b> | <b>Conflicts Forbidden</b> |
|------------------------------------|-----------------------|-----------------|----------------------------|
| <b>LaCAM</b><br>[Okumura+ AAAI-23] | No                    | Yes             | Vertex, Edge,<br>Swap      |

**Multi-Label A\***  
[Grenouilleau+ AAAI-19]

Vertex, Edge,  
**Up to 2**  
No  
Swap

|                                                  | <b>Problem</b> | <b>Multiple Goals</b> | <b>Scalable</b> | <b>Conflicts Forbidden</b> |
|--------------------------------------------------|----------------|-----------------------|-----------------|----------------------------|
| <b>LaCAM</b><br>[Okumura+ AAAI-23]               |                | No                    | Yes             | Vertex, Edge,<br>Swap      |
| <b>Multi-Label A*</b><br>[Grenouilleau+ AAAI-19] |                | Up to 2               | No              | Vertex, Edge,<br>Swap      |

# RHCR

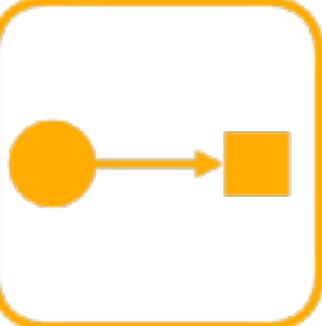
## [Li+ AAAI-20]

n  
nts

| <b>Problem</b>                                   | <b>Multiple Goals</b> | <b>Scalable</b>                      | <b>Conflicts Forbidden</b> |
|--------------------------------------------------|-----------------------|--------------------------------------|----------------------------|
| <b>LaCAM</b><br>[Okumura+ AAAI-23]               | No                    | Yes                                  | Vertex, Edge,<br>Swap      |
| <b>Multi-Label A*</b><br>[Grenouilleau+ AAAI-19] | Up to 2               | No                                   | Vertex, Edge,<br>Swap      |
| <b>RHCR</b><br>[Li+ AAAI-20]                     | Yes                   | Struggles with<br>large environments | Vertex, Edge,<br>Swap      |

**This Work**

Vertex, Edge,  
**Yes**  
Swap, **Cycle, Following**

|                                                  | <b>Problem</b>                                                                        | <b>Multiple Goals</b> | <b>Scalable</b>                   | <b>Conflicts Forbidden</b>           |
|--------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------|-----------------------------------|--------------------------------------|
| <b>LaCAM</b><br>[Okumura+ AAAI-23]               |   | No                    | Yes                               | Vertex, Edge, Swap                   |
| <b>Multi-Label A*</b><br>[Grenouilleau+ AAAI-19] |  | Up to 2               | No                                | Vertex, Edge, Swap                   |
| <b>RHCR</b><br>[Li+ AAAI-20]                     |  | Yes                   | Struggles with large environments | Vertex, Edge, Swap                   |
| <b>This Work</b>                                 |  | Yes                   | Yes                               | Vertex, Edge, Swap, Cycle, Following |

Motivation

Problem Definitions

Related Work

# Research Questions

Contributions

Conclusion