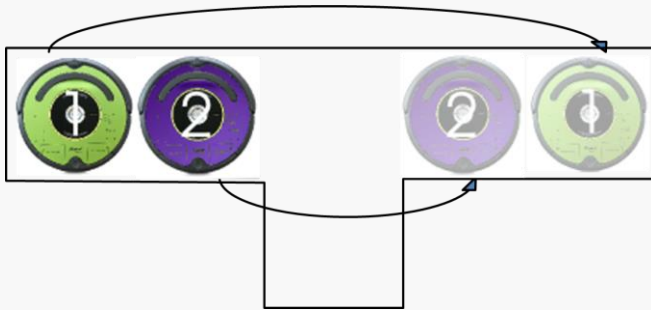


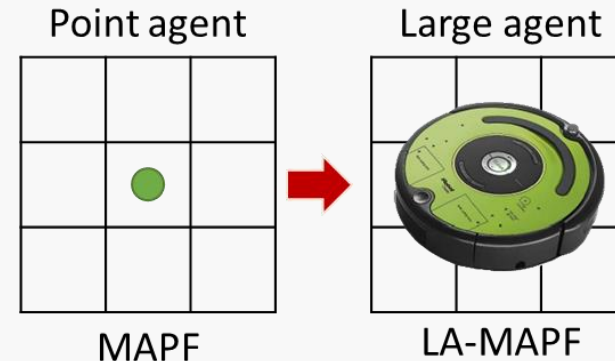
# Multi-Agent Path Finding for Large Agents (LA-MAPF)

Jiaoyang Li, Pavel Surynek, Ariel Felner, Hang Ma, T. K. Satish Kumar and Sven Koenig

## Multi-Agent Path Finding (MAPF)



## LA-MAPF



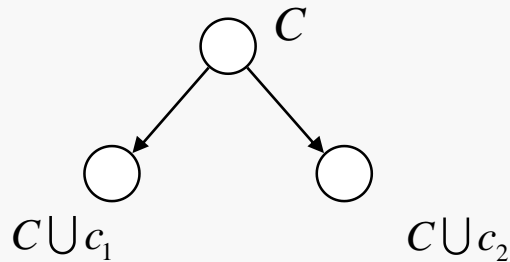
**LA-MAPF** consider agents' shapes.  
Agents collide when their shapes overlap.



# Multi-Agent Path Finding for Large Agents (LA-MAPF)

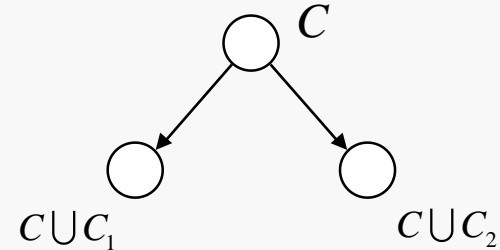
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## Conflict-Based Search (CBS)



Adding one additional constraint.

## Multi-Constraint CBS (MC-CBS)



Adding multiple additional constraints.

To guarantee the optimality of MC-CBS, any pair of conflict-free paths should satisfy at least one of the constraint sets  $C_1$  and  $C_2$ .

Experimentally, all MC-CBS variants outperform CBS in all domains by up to **3 orders of magnitude** in terms of runtime.

