UniAGENT: Reduced Time-Expansion Graphs and Goal Decomposition in Sub-optimal Cooperative Path Finding

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CPF on Reduced Time Expansion Graphs

• CPF
  – a group of agents (robots, cars, units in RTS, ...)
  – each agent has unique start and goal location
  – collisions must be avoided
  – environment - undirected graph

• Reductions to SAT
  – expand graph in time
  – model relocation of agents as SAT

• Reduced expansion and decomposition
  – decompose CPF to single agent placements
  – small formulae to be solved