Master's Thesis Defense Announcement
Mechanical and Aerospace Engineering Department
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Multi-Agent Differential Games under an Altruistic Equilibrium

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Microsoft Teams

Abstract

This work studies a multi-agent differential game with linear dynamics under the Berge equilibrium. The governing coupled differential equations for a two-agent and three-agent game under the Berge equilibrium are derived. These games are simulated and compared to the Nash equilibrium. A sensitivity study is performed which validates that, under some criteria, the Nash equilibrium can be recovered from the Berge equilibrium. Policy fusion between the Berge and Nash equilibrium is explored in a two-agent game. A five-agent game under the Berge equilibrium is simulated and multiple teams of agents in this game are evaluated. Finally, a mixed game, with agents under either the Nash or Berge equilibrium, is evaluated in simulation.