

**ROB 538**  
**Multiagent Systems**

**Homework #1: Multiagent Literature Review**  
**Due 09/27/2022 at 11:59 p.m.**

**Part A.** Below are ten topics within the multiagent systems field. For each of these topics, find five papers. Those five papers should cover the following criteria (if a paper was published at AAMAS last year, that covers two of the criteria).

Criteria:

- Published at the AAMAS conference
- Published in JAIR
- Published in JAAMAS
- Published within the last 2 years
- Referenced a lot (“a lot” depends on field). Provide number of citations.

Research Topics:

1. Reinforcement Learning
2. Neural Networks or Deep Learning
3. Reward Shaping
4. Potential Functions
5. Co-evolutionary Learning
6. Teaming or Team Formation
7. Game Theory
8. Computational Social Choice
9. Mechanism Design, Auctions
10. Multi-Robot Coordination

**Part B.** Pick three topics, and one paper for each topic (a total of three papers). For each of those three papers, provide an **eight-sentence** summary:

1. What is the big picture problem?
2. Why do I (as a reader) care?
3. What is hard or challenging about solving this problem?
4. What are current approaches to this problem?
5. What is the specific problem that current approaches do not handle (what is the GAP)?
6. How did the authors address this gap?
7. What’s cool about what the authors did?
8. What’s the outcome of this work? (does 6 successfully address 5, and by doing so satisfy 1?)