AAE 590 Report Brainstorm & Breakdown

# Introduction & Motivation

1. Give a rough introduction of what the paper focus is – motion planning and the implementation of consensus theory.
2. Talk about what motion planning is all about
   * History
   * Applications
   * Current state of research
3. Introduce some famous motion planning algorithms.
   * A\*
   * D\*
   * RRT/RRT\*
   * Potential Field Planning
   * PRM/PRM\*
4. Talk about the advantages and disadvantages of each algorithm.
5. Move onto how the focus of this paper is on the PRM/PRM\* algorithm briefly (avoid going into too much detail because you want to save that for the problem formulation part of this paper). Just perhaps a couple of sentences.

# Problem Formulation

1. Explain the rationale for choosing the PRM/PRM\* algorithm.
2. Correlating the notions of graph theory to the structure of the algorithm.
3. Talk about methods of how other people tried to optimize PRM/PRM\* algorithm in-depth.
4. How consensus might work to optimize the algorithm
   * Show persuasion/logos for how your method would differ and provide new avenues in the field of research.
5. Begin explaining the theory of optimizing PRM/PRM\* algorithm using consensus theory and consensus algorithm. Make sure to put in your theoretical analysis with evidence from other papers. Verify your math.