Weekly report

1. **My *Goals* from last week**
   1. **Finish elect particle code, plot for random mapping vs elect vs closest boundaries.**
   2. **Learn to analyze complexity of code and complexity of algorithm.**
2. **My *Accomplishments* this week**
   1. Added the plot for comparing three algorithms and edited the plot for comparing the 3 workspaces.
   2. Added 2 paragraphs discussing the 2 figures and updated GIT.
   3. Defining a new strategy – Most Favorable Move (MFM). In this strategy, We favor direction over distance. Unlike the Closest Frontier which focused on moving to the closest boundary, here the whole swarm moves in the direction with the maximum preference. The move sequence executed will be the longest common sequence. For example if we have 5 particles with moves {[ l u l d d r r], [l u l] ,[r r u u d r], [l u u r r], [u u r r u]}. Then the longest common sequence would be seq={[l u]}.

This way we can bias the search in direction of interest and make use of the large size of swarms. The performance of the algorithm should be tested. But this improves the explorative nature of the search and always moves the robots to the most unexplored part of the graph at each step.

1. **My *Goals* for next week**
   1. **Write the algorithms in algorithmic latex and finish editing the paper.**
2. **Needed from Dr Becker**
   1. **Meeting on Friday for update on work.**