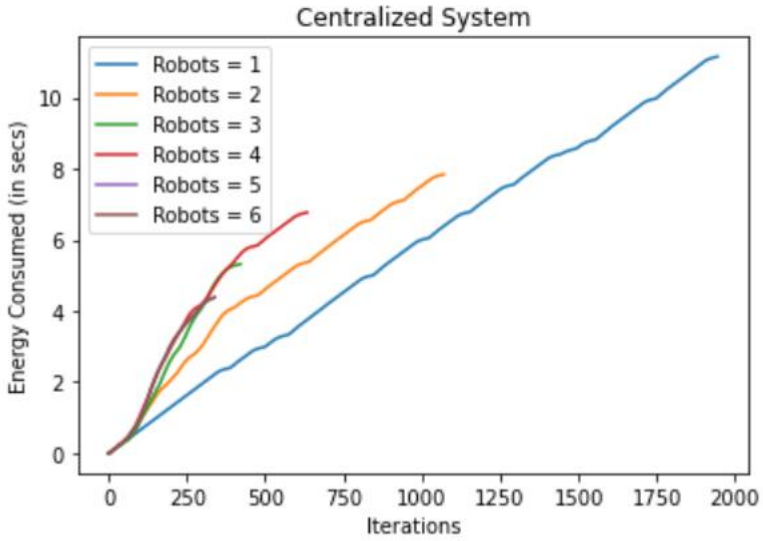
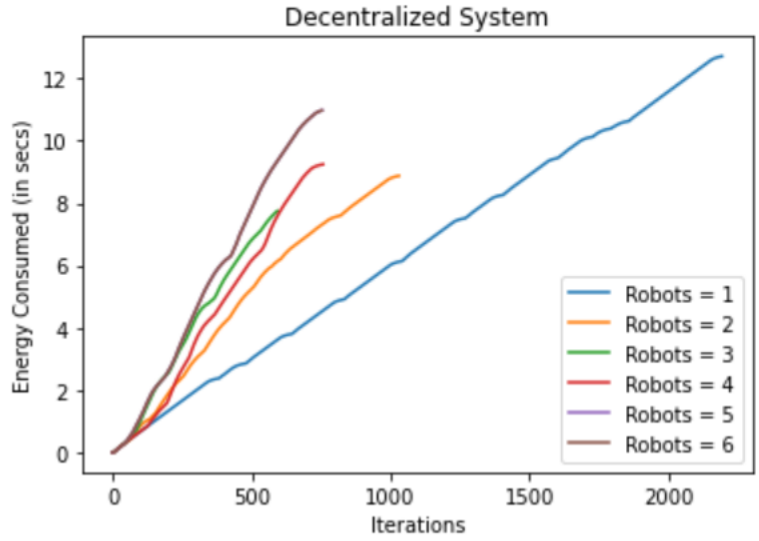
Graphs : Multi-Robot Systems Shailendra Sekhar

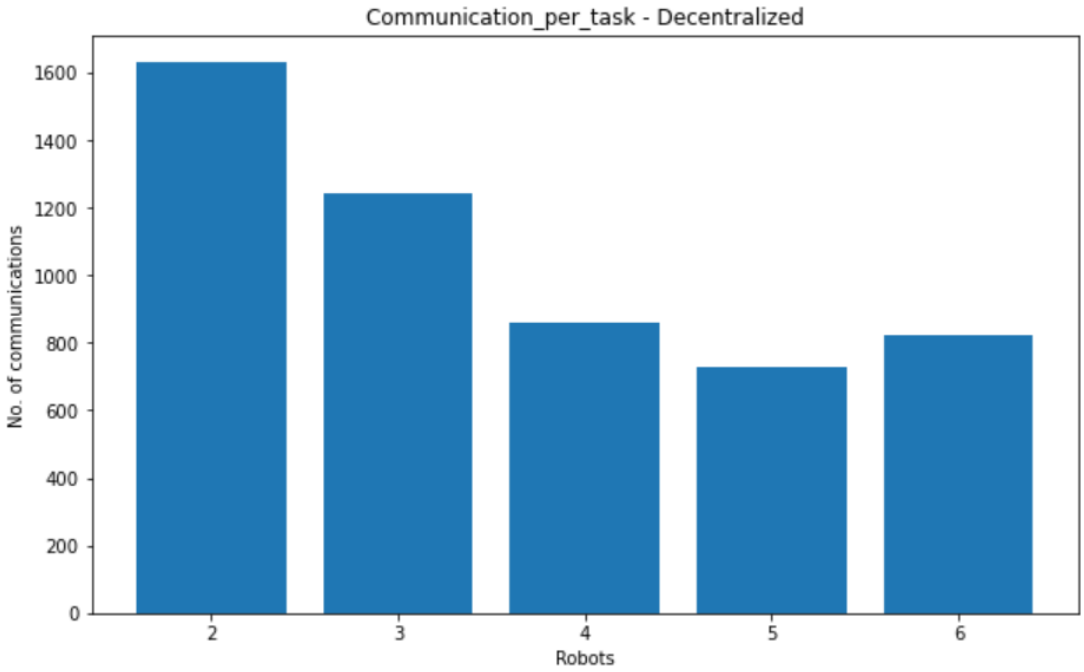
The following graphs are for energy consumed by robots to complete 10 tasks. The robot's initialization is random. Therefore, to understand the system's true nature, we would have to conduct many experiments and average out the data. But nevertheless, some trends which we can observe are given below.



The above graph is for the centralized system. The graph shows how many iterations the number of robots takes to complete 10 tasks. Here we can clearly see the trend where the number of iterations and the energy consumed by the robots to complete the tasks decreases as we increase the number of robots.



The above graph shows the energy consumption and the number of iterations taken by the decentralized system to finish 10 tasks for different numbers of robots. Here, there is some disturbance in the graph with respect to robots 5 and 6. And that is probably because of random initialization.



The above graph shows the number of communications between the robots for all tasks. Clearly, the trend captured resembles the trend from the paper.