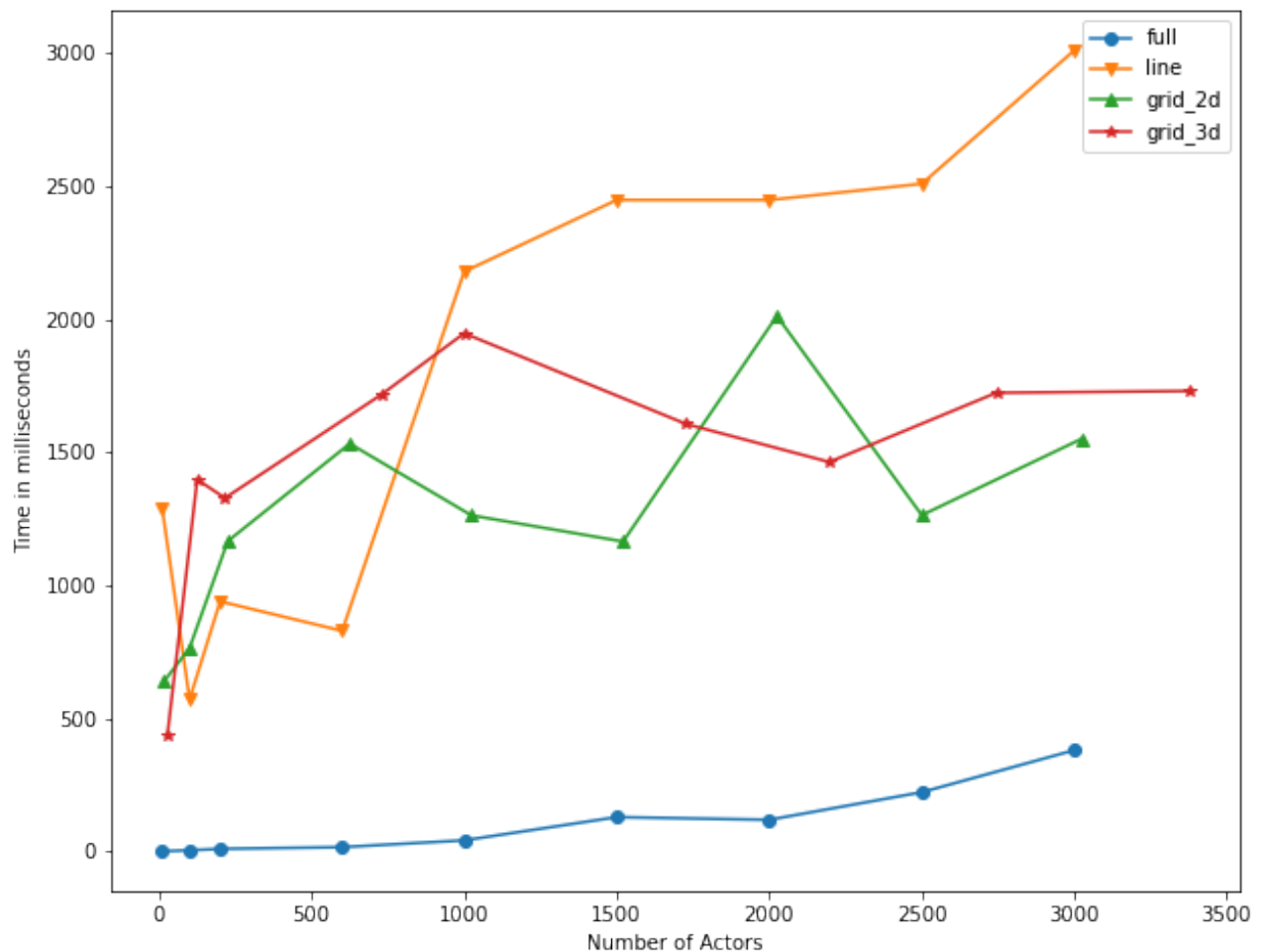


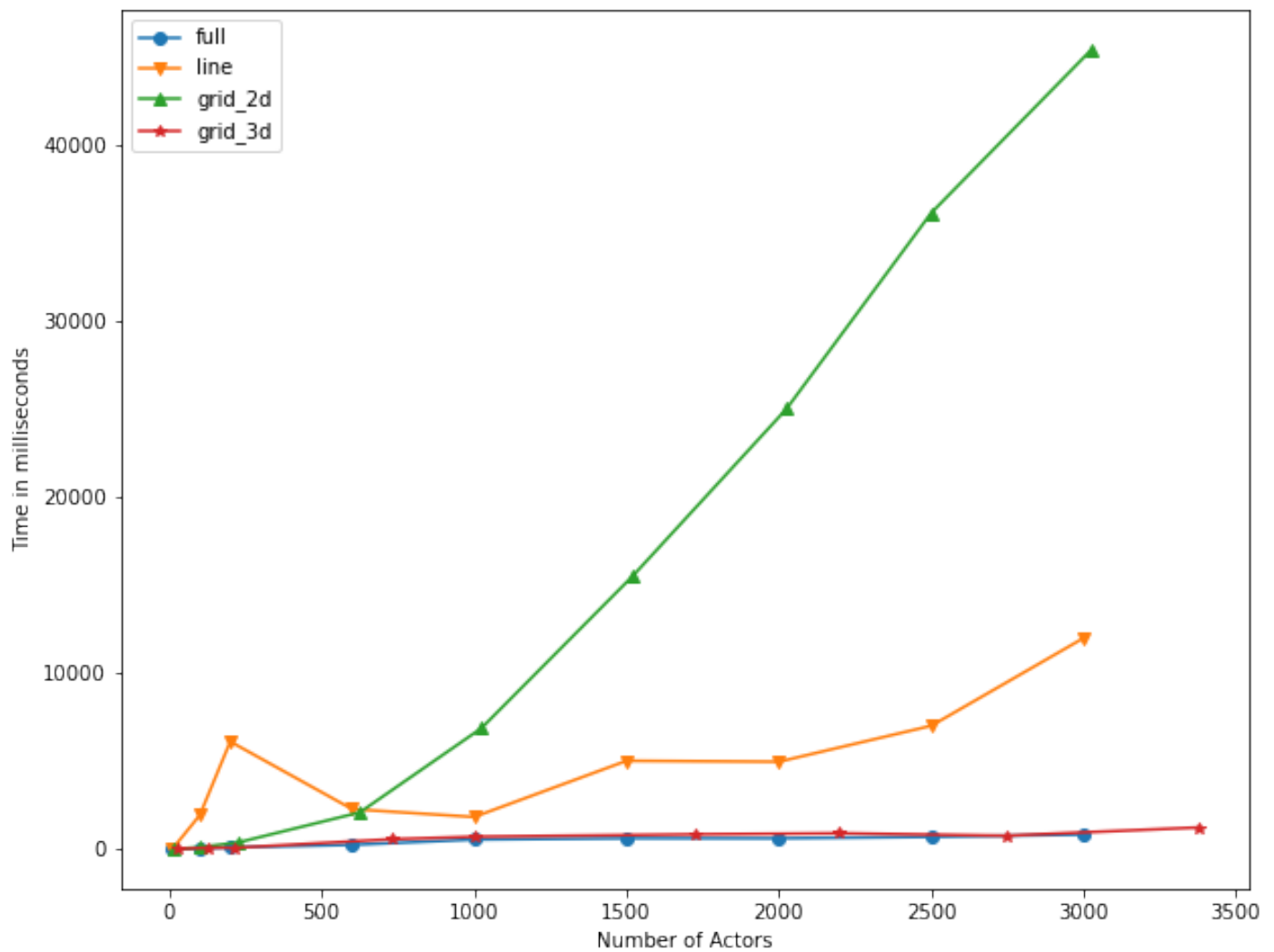
1. Adish Someshwar Rao
2. Sanjana Rao Guttalu Prasan

GOSSIP ALGORITHM



From the above graph it can clearly be seen that when we have full connectivity the nodes communicate with each other quickly and converge the fastest. Following the same pattern the line connectivity grows rapidly as the number of actors increases. The grid 2d pattern following a more or less steady pattern with one anomaly while the grid 3d pattern which was 1 random node depends heavily on the random node. When the random node is one far away it provides good performance else it provides performance similar to the grid 2d, and thus has an erratic pattern.

PUSH SUM ALGORITHM



It is interesting to note that the convergence time for both full and grid_3d are nearly identical, hinting that the long range of the random link in the grid_3d topology aids in convergence. Another very interesting point to note is that the grid_2d topology converges the slowest, even slower than the line topology. This suggests that the fixed communication pattern in line calculates the averages faster than the grid_2d topology, which may talk to select neighbors while excluding others, taking longer to converge.