

Greedy routing algorithms demonstrate robust performance in  $N \times N$  arrays, achieving  $O(\log N)$  expected packet delay and a maximum queue size of 4 with high probability. This challenges prior assumptions about their limitations in dynamic environments. Future research should explore higher-dimensional networks, variable load conditions, hybrid approaches with other optimization techniques, and real-world applications (e.g., IoT, data centers) to improve and validate their effectiveness.