

VII. CONCLUSION AND FUTURE WORK

Based on the experiments, it can be concluded that the quality of solutions depends on the number of ants. The lower number of ants allows the individual to change the path much faster. The higher number of ants in population causes the higher accumulation of pheromone on edges, and thus an individual keeps the path with higher concentration of pheromone with a high probability. From our experimental result the proposed algorithm is more effective than the conventional ant colony algorithm to find the better solution. Future work is to apply the proposed algorithm to other combinational problems and check the efficiency by comparing this method with other proposed method. We are working on the simulator of this proposed idea. We are keen interested improving heuristic parameter in future.

REFERENCES

1. Solving Traveling Salesman Problem by Using Improved Ant Colony Optimization Algorithm (Zar Chi Su SuHlaing and May Aye Khine, Member, IACSIT)
2. A Modified Ant Colony Algorithm for Traveling Salesman Problem (X. Wei, L. Han, L. Hong)
3. Solving the Travelling Salesman Problem Using the Ant Colony Optimization (Ivan Brezina Jr. ZuzanaČičková)
4. An improved ant colony algorithm based on 3-opt and chaos for travelling salesman problem (Qingping Yu1 ,Xiaoming You1 and Sheng Liu2)
5. Ant Colony Optimization for the Traveling Salesman Problem Based on Ants with Memory (Bifan Li1, LipoWang and Wu Song)
6. An Ant Colony Optimization Algorithm for Solving Traveling Salesman Problem (Zar Chi Su SuHlaing, May Aye Khine)
7. An Improved Ant Colony Optimization Algorithm for Solving TSP (Yimeng Yue1 and Xin Wang)
8. Parameter Optimization of SVM Based on Improved ACO for Data Classification (Wen Chen and Yixiang Tian)
9. Elitist Ant System for Route Allocation Problem (SORIN C. NEGULESCU, CONSTANTIN OPREAN, CLAUDIU V.KIFOR, ILIE CARABULEA)
10. A. Colomi, M. Dorigo, V. Maniezzo, "Distributed optimization by ant colonies," Proceedings of the 1stEuropean Conference on Artificial Life, pp.134-142, 1991.
11. M. Dorigo, V. Maniezzo and A. Colomi. "Ant System: Optimization by a colony of cooperating Agents," IEEETransactions on Systems, Man, and Cybernetics, Part B, vol.26, no.2, pp. 29-41,1996.
12. T. Stützle and H.H. Hoos, "Improving the Ant System: A detailed report on the MAX-MIN Ant System," FG Intellektik, FB Informatik, TU Darmstadt, Germany, Tech. Rep. AIDA-96-12, Aug. 1996.
13. M. Dorigo and L.M. Gambardella. "Ant Colony System: A cooperative learning approach to the traveling salesman problem," IEEE Transactions on Evolutionary Computation, vol.1, no.1, pp.53-66, 1997.
14. D. X. Yu, "Hybrid ant colony optimization using memetic algorithm for traveling salesman problem," in Proceedings of the 2007 IEEE Symposium on Approximate Dynamic Programming and Reinforcement Learning (ADPRD 2007).
15. L. Min and J. Yant, "A shortest path routing based on ant algorithm," Journal of Communication and Computer, ISSN1548-7709, USA, September 2005.
16. M. Dorigo and L. M. Gambardella, "The colony system: A cooperative learning approach to the traveling salesman problem," IEEE Transactions on Evolutionary Computation, vol.1, no.1, April, 1997.
17. M. Dorigo, M. Birattari, and T. Stuzle, "Ant colony optimization, artificial ants as computational intelligence technique," IEEE computational intelligence magazine, November 2006.
18. TSPLIB Web Page, available:
19. An ant colony optimization method for generalized TSP problem (Jinhui Yang, Xiaohu Shi, Maurizio Marchese, Yanchun Liang) March 2008.
20. Solving the Travelling Salesman Problem Using the Ant Colony Optimization. Management Information Systems, Vol. 6 (2011), No. 4, pp. 010-014, September 2011.
21. Ant Colony Optimization Algorithm for Solving the Provider - Modified Traveling Salesman Problem. (Krzysztobaranowski, Iwona Poźniak-Koszałka, Andrzej Kasprzak, Leszek Koszałka) 201
22. A Novel Approach To Solve Tsp Using Ant Colony Optimization (Jyoti Garg, Renu Singla M.Tech Student, Dept. of CS E, SRCEM, Palwal, India Assistant Prof., Dept. Of CSE, SRCEM, Palwal, India) May 2015.