# Chapter 6. Conclusions

This paper proposes a new deploy strategy by taking the number of charging stations and the distance between sensor node and charging station into account simultaneously. We formulate the proposed strategy into a multi-objective problem and employ a NSGA-II to solve charging station deployment problem. We compare the proposed approach to the simulated annealing-based charging algorithm (SABC) and the layoff simulated annealing-based charging algorithm (LSABC) in terms of the number of charging stations and the overall charging power. The simulation results revealed that the overall charging power obtained using the proposed approach is 5% and 8% higher than that obtained using SABC and LSABC approaches. Moreover, the number of charging stations obtained using NSGA-II is 6% and 1% less than that obtained using SABC and LSABC approaches, respectively.

In future work, we can consider that there will be obstales in the real environment, and these obstacles will interfere with the charging efficiency. Therefore, these conditions can also be added to the multi-objective problem. Also, NSGA-II takes a long time to deal with multi-objective problems, and we also need to reduce the execution time of the algorithm.