Machine Learning 1

ICS2207

Assignment Report

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1 Introduction

The Travelling Salesman Problem is a very common problem in the field of operations research, this problem has been studied extensively by mathematicians, computer scientists, and many great minds yet its complexity is still unknown [2]. The problem statement is given as follows:

"Given a collection of cities and the cost of travel between each pair of

them, the traveling salesman problem, or TSP for short, is to find the cheapest way of visiting all of the cities and returning to your starting point." [2]

2 Genetic Algorithms

3 Ant-Colony Optimisation

4 Results and Comparisons

5 Conclusion

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References

[1] J. Carr. *An Introduction to Genetic Algorithms.* `https://www.whitman.edu/Documents/Academics/Mathematics/2014/carrjk.pdf`. [16th May 2014].

[2] uwaterloo. *The Problem.* `http://www.math.uwaterloo.ca/tsp/problem/index.html`. [6th March 2018].