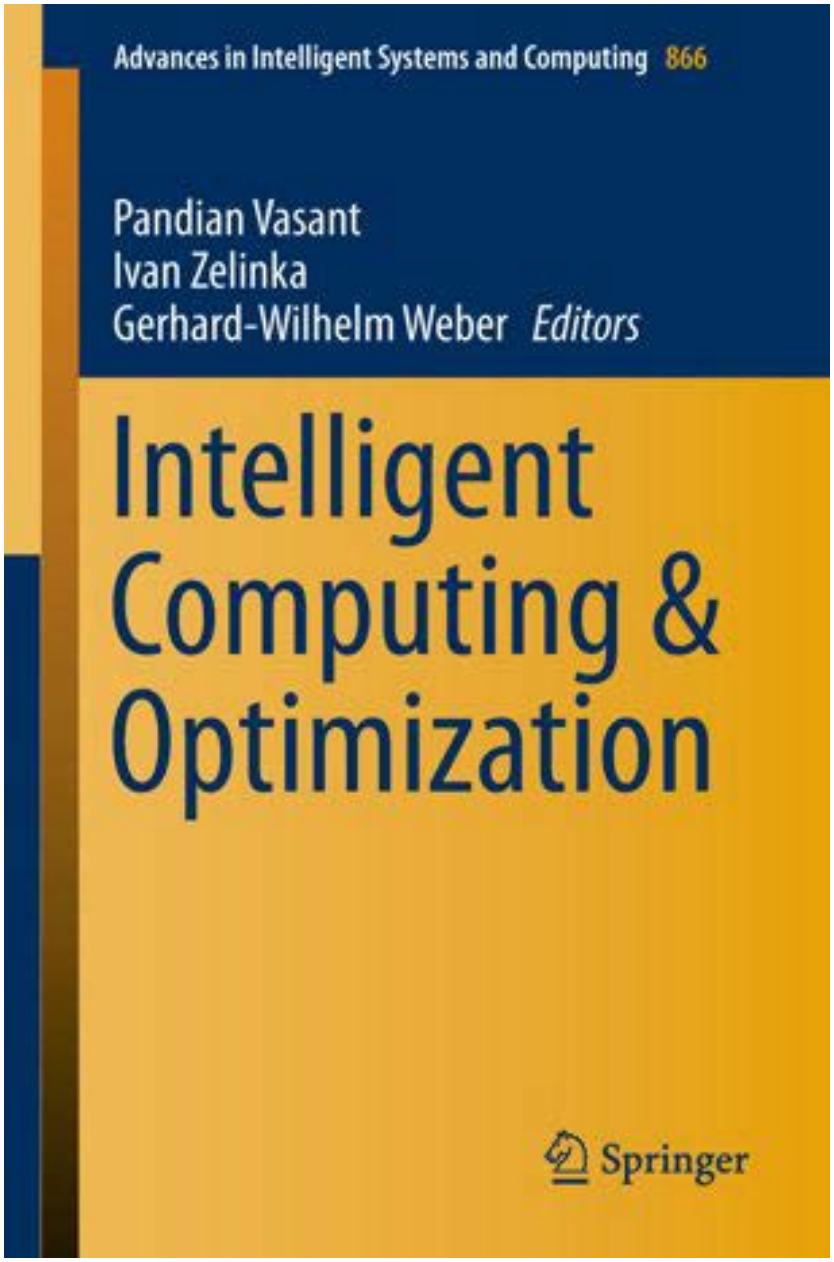

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Contents

Application of Travelling Salesman Problem for Minimizing Travel Distance of a Two-Day Trip in Kuala Lumpur via Go KL City Bus

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Abstract. Kuala Lumpur is a cosmopolitan urban centre of Malaysia and has received more than 11 million tourists per year. Tourists usually spend a few days in Kuala Lumpur to visit as many attractions as possible. However, planning such trips can be challenging for tourists who are unfamiliar with the city. Moreover, they are restricted by time and budget constraints. One of the free charter public transports in Kuala Lumpur is the Go KL City Bus. This study aims to assist tourists or travellers (domestic or international) in optimizing their trip around Kuala Lumpur via the Go KL City Bus. A mathematical approach called travelling salesman problem is used to identify the shortest distance between the places of interest. The study proposes a solution on the basis of a two-day tour route for selected tourist attractions in Kuala Lumpur. Results show that the shortest distance of routes for the first and second days are 48.64 km and 46.96 km, respectively. This study aims to promote tourism in Malaysia, thereby contributing to the country's economic and tourism growth.

Keywords: Tourism route · Shortest distance · Travelling salesman problem Optimization

1 Introduction

Tourism is an important service industry in Malaysia. A total of 25.9 million visitor arrivals and RM 82.2 billion tourist receipts were recorded in 2017 [1]. Tourism brings sustainable impact to Malaysia's development, economic growth and other related service industries such as transport, hotels, food and beverages, shopping mall and entertainment [2]. In 2017, the total shopping receipts increased, with foreign tourists recording an average stay of six nights. The top ten countries of origin of these tourists are Singapore, Indonesia, China, Thailand, Brunei, India, South Korea, Japan, the Philippines and the United Kingdom [1].

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