PREFACE

We offer all praise and gratitude to Allah for all His grace and guidance. The thesis entitled "Improved Whale Optimization Algorithm with Variable Neighborhood Search Strategy (WOA-VNS) in Solving Vehicle Routing Problem (VRP) for Recommending Multi-days Tourist Routes in Yogyakarta" can be completed on time.

This thesis was prepared as a prerequisite for obtaining a Master's in Informatics at Telkom University. In addition, this thesis contributes to Computer Science, especially on the topic of Recommendation Systems with a focus on tourism.

However, writing this thesis takes work. The author encountered many challenges and obstacles, such as time spent searching for relevant journals, time-consuming data processing, doing a lot of trial and error to achieve the best results, and losing motivation and enthusiasm sometimes.

The author also realizes that this thesis still has shortcomings and could be improved. Apart from that, the successful completion of this thesis cannot be separated from the guidance, direction, and support provided by many parties. Therefore, the author would like to express his deepest gratitude to all parties who have contributed directly and indirectly.

Bandung,

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