



**PROJECT REPORT**  
**COMPARISON BETWEEN REVERSE-DELETE**  
**AND BORUVKA ALGORITHM FOR**  
**CONSTRUCTING SHORTEST HIGHWAY**  
**SYSTEM**

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Judul Tugas Akhir: : Comparison Between Reverse-Delete and Boruvka Algorithm for  
Constructing Shortest Highway System

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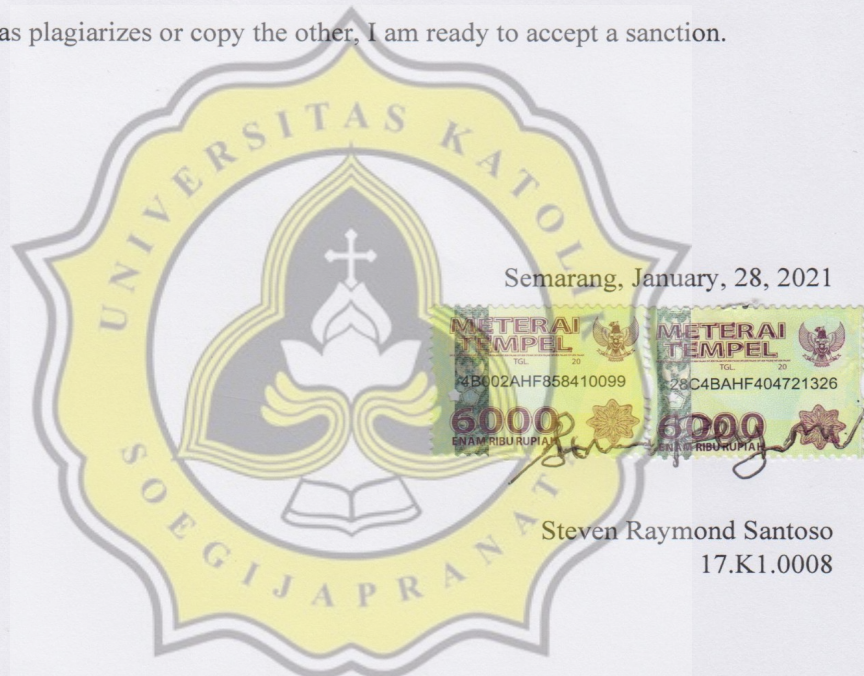
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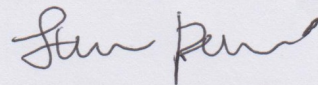
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First of all I want to thank God for his kindness and generosity, so that I can finish my final project very well. The final project is as a final requirement to take the Bachelor of Computer Science exam in the Informatic Engineering Study Program at Soegijapranata Catholic University Semarang.

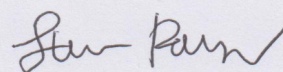
In the preparation of this final project, the author received assistance from various parties. Therefore, on this occasion the author would like to express his thanks to:

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4. And other person which the author can't mention one by one.

Finally, I realize that the writing of this final project is far from perfect, so I ask for constructive criticism and suggestion for the better in the future, thank you.

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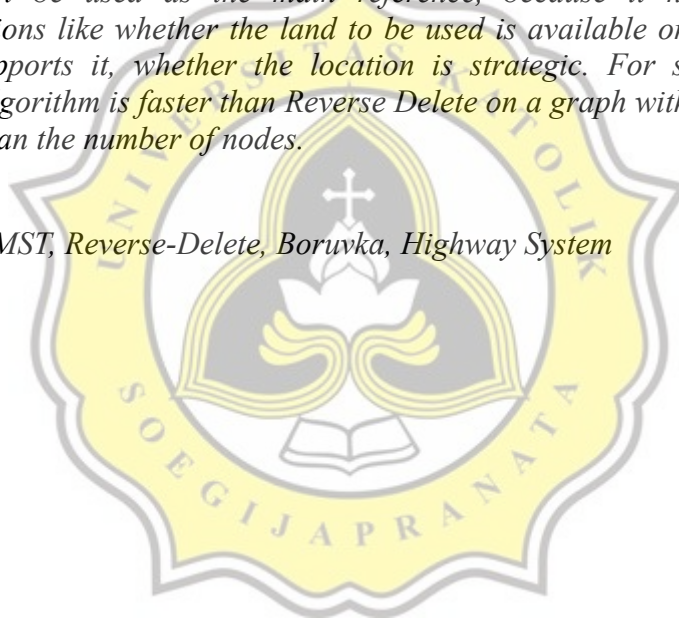
## ABSTRACT

*The minimum spanning tree can solve the problem of finding the shortest path in the graph. One thing that can be resolved is to find the optimal route in the construction of a highway system that connect all city, which is expected to reduce cost so that they can be allocated to the other sectors.*

*The data used represents the name of the city and also the edge that connect the cities. After that the data will be processed by the program using the Reverse Delete and Boruvka algorithm, so that the result can be compared between Reverse Delete and Boruvka algorithm*

*After testing the data that has been collected, it can be concluded that both Reverse Delete and Boruvka algorithm can find the shortest MST path to build a highway system with accuracy of 63%, so the results of the two algorithm still cannot be used as the main reference, because it needs some more considerations like whether the land to be used is available or not, whether the terrain supports it, whether the location is strategic. For speed testing, the Boruvka algorithm is faster than Reverse Delete on a graph with a higher number of edges than the number of nodes.*

*Keyword: MST, Reverse-Delete, Boruvka, Highway System*



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