

## DEDICATION

This thesis is compiled with the support of my family. I praise GOD and thanks to all who have helped, directed, and supported this work. I dedicate the work to my beloved parents Mamah Yanti and Papah Rudi, and my brother Bayu who always be my number one person in every time. I also thank Ihsan, Ibu, and Apa who always support and give their best wishes for me and this work.

Finally this thesis is dedicated to all informatics students in the world. I hope that this research may provide valuable contribution in Computer Science.