## **PREFACE**

Praise is merely to the almighty God for the gracious mercy and tremendous blessing that enables me to accomplish this bachelor thesis entitled: DEFECT IN-SPECTION STEEL SURFACE USING DIGITAL IMAGE PROCESSING BASED ON MULTI-STAGE DEEP LEARNING. This undergraduate thesis is presented to fulfill one of the requirements in accomplishing the Study Program of Telecommunication Engineering Bachelor Degree. I would like to express my special appreciation to my first supervisor, Dr. Koredianto Usman, S.T., M.Sc and my second supervisor, Fityanul Akhyar, S.T., M.T., Ph.D. for their valuable assistance and inspiration to the completion of this bachelor thesis.

The greatest honor and appreciation would be finally dedicated to my dear parents, family, and best friends. It is truly undoubted that loves, cares, motivation, spirits, patience and willingness to wait for my graduation, as well as timeless prayers during the day and night, are undeniably important to me. Hopefully this final thesis can be useful for author, readers, and all realms in the world of education.

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