## APPROVAL PAGE

Approval of the Graduate School of Computing of Telkom University.

I certify that this thesis satisfies all the requirements as a thesis for the degree of Master Informatics.

Date: 03/03/2020

(Dr. Setyorini)

Head of Graduate School of Informatics

This is to certify that we have read this thesis and that in our opinion it is fully adequate, in scope and quality, as a thesis for the degree of Master of Informatics.

Date: 06/02/2020

(Dade Nurjanah, Ph.D)

Supervisor

Examining Committee Members.

Date of examination: 06 f 02 f 20 20

(Jimmy Tirtawangsa, Ph.D) (Chairperson of the jury)

(Yanti Rusmawati, Ph.D) (jury's member)

(Dana Sulistyo Kusumo, Ph.D) (jury's member)