## APPROVAL PAGE

Approval of the School of Computing of Telkom University

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

Date Jul 15, 2019

(Parman Sukarno, Ph.D.)

Master of Computing, Chair

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 Computing.

Date Jul 15, 2019

(Jimmy Tirtawangsa, Ph.D.)

Supervisor

Examining Committee Members.

Date Jul 11, 2019

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