ACKNOWLEDGMENTS

Bismillaahirrahmaanirrahiim. Alhamdulillahirabbil'alamin. Arrahmaanirrahiim. Maalikiyawmiddiin.

In the name of Allah, the Most Gracious, the Most Merciful. All praise is due to Allah, the Lord of the Worlds, the Most Compassionate, the Most Merciful. The Master of the Day of Judgment. Thank you for Your Grace and Bless, so the author was able to complete the study. Without Your Kindness, the author will not be able to finish this thesis and achieve the Master's degree.

The journey to earn a Master's degree ended up with the completion of this thesis. The author would never reach this point without the help, support, efforts, and prayers from family, relatives, friends, and lecturers. Therefore, the author would like to express the deepest gratitude and thanks to:

- 1. **Mr. Yasir** and **Mrs. Hasmuliani**, the author's beloved parents, for your love, prayers, and support. What you have given is beyond measure and can never be repaid. May Allah bless you always with joy, good health, and a long, peaceful life.
- 2. **Retno Septiani Yasir** and **Syamsu Yuliansyah**, the author's beloved sister and brother, for your endless love, and sincere prayers throughout every step of this journey. Your presence has been a constant source of strength when things felt uncertain, and your support reminded me that I was never alone. May Allah always bless you both with unwavering health, lasting happiness, and a life filled with meaningful purpose.
- 3. **Prof. Dr. Rendy Munadi, M.T.** as the Supervisor, for all great excellent inspiring lectures so that the difficult lessons become easier. has guided and helped the author when the author has problems in completing this thesis, a lot of knowledge, experience, and motivation so that the author is able to become a better person. Thank you for being a supervisor who was always available to be contacted and who patiently guided me throughout this process.
- 4. **Dr. Helni Mutiarsih Jumhur, SH, MH.** as Co-Supervisor, for the guidance, help, and excellent advice in this thesis, and understanding the author's condition. Thank you for the trust given, even though the author still has many shortcomings. That way, the author can cultivate self-confidence again.

- 5. All lecturers of Telkom University that have taught the author from bachelor degree and especially lecturer from master degree, for the great inspiring excellent lectures. It was a pleasure to be your student. Not only get the knowledge, but also lots of inspiration and role models in wisdom, humility, and modesty.
- 6. Dr. Ida Wahidah S.T., M.T. as the previous and current Head of Magister of Electrical Engineering Study Program respectively, for the wisdom, policies, and effort to make Magister of Electrical Engineering Study Program even better. Thank you Mrs. Giashinta, and Mr. Insan Nur as admin of Magister of Electrical Engineering Study Program, for help and support in academic administration.
- 7. All colleagues who have accompanied the author's days while studying at Magister: **Fadilah** and **Iqbal**. Thank you for the laughter, support, and meaningful conversations that made this journey more memorable.

Perhaps that all is what the author can say. I do appologize if there is a misspelled for name and titles. For the parties who missed from the above gratitude, the author apologizes profusely for the negligence. May Allah the All-Knowing, whom nothing escapes His control, record your kindness and reward it with the best possible reward.