## **PREFACE**

In the name of Allah, the Most Gracious, the Most Merciful.

All praise and gratitude are devoted to Allah SWT, whose endless mercy and guidance have enabled me to complete this Final Project, titled "Spatiotemporal Analysis of LULC Transitions and NO<sub>2</sub> Patterns in Bali Using Satellite Data and Machine Learning Techniques." This work is submitted in partial fulfillment of the requirements for a Bachelor's degree in Information Systems, Faculty of Industrial Engineering, Telkom University.

- My deepest gratitude goes to Mr. Nur Ichsan Utama, S.T., M.T., Ph.D., my academic advisor, for his invaluable mentorship and unwavering support throughout this research. His thoughtful guidance, patience, and belief in my potential helped me stay focused and confident, even during the most challenging phases of this journey. I truly appreciate the time and attention he dedicated to helping me grow both academically and personally.
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- Lastly, I extend sincere thanks to everyone who supported this project whether through knowledge, encouragement, or silent presence. You helped make this work possible.
- This project represents more than an academic requirement it marks a deeply transformative journey filled with challenges, relief, growth, and the

strengthening of my critical thinking and integrity. Behind every line of code and every analysis lies a story of perseverance, learning, and support

from those around me.

• I recognize this project is far from perfect and welcome any constructive feedback. I hope it can contribute meaningfully to the growing field of environmental data analysis and machine learning.

With heartfelt gratitude,

Kevin Ariel Wibowo

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