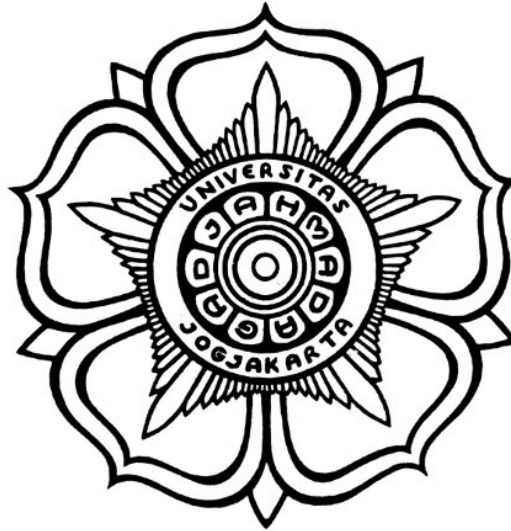


IMPLEMENTATION OF EXTENDED KALMAN FILTER FOR LITHIUM-ION BATTERY STATE OF CHARGE ESTIMATION ON STM32F411CEU6 USING PARTICLE SWARM OPTIMIZATION BASED THEVENIN MODEL IDENTIFICATION

THESIS



THE SUSTAINABLE DEVELOPMENT GOALS
Industry, Innovation and Infrastructure
Affordable and Clean Energy
Climate Action

Written by:

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**STUDY PROGRAM BACHELOR IN ELECTRICAL
ENGINEERING PROGRAM**

**DEPARTMENT OF ELECTRICAL ENGINEERING AND
INFORMATION TECHNOLOGY
FACULTY OF ENGINEERING UNIVERSITAS GADJAH MADA
YOGYAKARTA
2025**

HALAMAN PENGESAHAN

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SKRIPSI

Diajukan sebagai Salah Satu Syarat untuk Memperoleh

Gelar Sarjana Teknik

pada Departemen Teknik Elektro dan Teknologi Informasi Fakultas Teknik

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