

## DAFTAR ISI

<b>BAB I .....</b>	<b>1</b>
A. Latar Belakang .....	1
B. Tujuan Penelitian .....	2
C. Rumusan Masalah .....	3
D. Batasan Masalah.....	3
E. Metodologi .....	4
F. Sistematika Penulisan.....	4
<b>BAB II .....</b>	<b>6</b>
A. <i>Self Driving Car Robot</i> .....	6
1. Bergerak .....	7
2. Otonom.....	7
3. Cerdas.....	7
B. Sistem Koordinat.....	8
C. GPS Radiolink M8N SE100 + <i>Compass Module</i> .....	8
D. Formula Haversine .....	10
E. Kendali PID.....	11
1. Konrol Proporsional .....	11
2. Konrol Pengendali <i>Integral</i> .....	13
3. Konrol Pengendali <i>Differential</i> .....	14
F. Penalaan Pengendali PID .....	15
G. Processing .....	17
H. Unfolding Map .....	24
I. Arduino Mega 2560 .....	26
J. <i>Arduino Integrated Development Environment (IDE)</i> .....	27
K. Potensio .....	28
L. Regulator Tegangan .....	29
M. Motor DC .....	30
N. Driver Motor <i>Embedded Module Series (EMS)</i> 30 A.....	31
<b>BAB III .....</b>	<b>35</b>
A. Diagram Blok Sistem .....	35
B. Sistem Elektronika .....	36

1. Rangkaian <i>Driver Motor</i> .....	37
C. Perancangan Mekanik .....	40
D. Perancangan Kendali <i>Steering</i> .....	44
E. Perancangan Antarmuka .....	45
1. Topbar .....	45
2. <i>Compass</i> .....	46
3. <i>Live view position</i> .....	46
4. <i>Camera view</i> .....	46
5. Information Panel .....	46
<b>BAB IV</b> .....	47
A. Pengujian Motor DC .....	48
B. Pengujian Sensor Kompas .....	48
C. Pengujian <i>Global Positioning System (GPS)</i> .....	51
D. Pengujian Sistem <i>Steering</i> .....	54
E. Pengujian <i>Real World Scenario (Running Test)</i> .....	61
<b>BAB VI</b> .....	67
A. Kesimpulan .....	67
B. Saran .....	67