

DAFTAR ISI

HALAMAN JUDUL	
LEMBAR PERSETUJUAN	
LEMBAR PENGESAHAN	
LEMBAR PERNYATAAN KARYA SENDIRI	
HALAMAN PERSEMBAHAN	
ABSTRAK	i
ABSTRACT	ii
KATA PENGANTAR	iii
DAFTAR ISI	v
DAFTAR GAMBAR	ix
DAFTAR TABEL	x
BAB I PENDAHULUAN	1
1.1 Latar Belakang	1
1.2 Rumusan Masalah	3
1.3 Batasan Masalah.....	3
1.4 Tujuan	4
1.5 Manfaat Penelitian	4
1.6 Kerangka Pemikiran	5
1.7 Sistematika Penulisan	6
BAB II KAJIAN LITERATUR	7
2.1 <i>State Of The Art</i>	7
2.2 Landasan Teori.....	10
2.2.1 <i>Machine Learning</i>	10
2.2.2 Pengelolaan Citra	11
2.2.3 Klasifikasi.....	11
2.2.4 Algoritma <i>Convolutional Neural Network</i>	12
2.2.5 <i>MobileNetV2</i>	13
2.2.6 CRISP - DM	14
2.2.6.1 <i>Business Understanding</i>	14
2.2.6.2 <i>Data Understanding</i>	15

2.2.6.3 <i>Data Preparation</i>	15
2.2.6.4 <i>Modelling</i>	15
2.2.6.5 <i>Evaluation</i>	15
2.2.6.1 <i>Deployment</i>	16
2.2.7 <i>Tensorflow</i>	16
2.2.8 <i>Keras</i>	17
2.2.9 <i>Matplotlib</i>	17
2.2.10 <i>Numpy</i>	18
2.2.11 <i>Python</i>	18
2.2.12 <i>Flask</i>	19
2.2.13 <i>Confusion Matrix</i>	19
2.2.15 <i>Tingkat Kematangan</i>	20
2.2.15 <i>Perbandingan Arsitektur</i>	21
BAB III METODELOGI PENELITIAN	22
3.1 <i>Business Understanding</i>	22
3.2.1 <i>Determine Business Objective</i>	23
3.2.2 <i>Asses Situation</i>	23
3.2.3 <i>Determine Data Mining Goals</i>	23
3.2.4 <i>Project Plan</i>	24
3.2 <i>Data Understanding</i>	24
3.2.1 <i>Data Collection</i>	24
3.2.2 <i>Data Description</i>	24
3.2.3 <i>Initial Data Exploration</i>	25
3.3 <i>Data Preparation</i>	26
3.3.1 <i>Data Integration</i>	26
3.3.2 <i>Data Cleaning</i>	26
3.3.3 <i>Feature Engineering</i>	26
3.3.4 <i>Normalization / Encoding</i>	27
3.4 <i>Modelling / Pembuatan Model</i>	27
3.4.1 <i>Select Modelling</i>	27
3.4.2 <i>Build Model</i>	28

3.4.3 <i>Generate Test Design</i>	28
3.5 <i>Evaluation / Evaluasi</i>	29
3.5.1 <i>Evaluate Result</i>	29
3.5.2 <i>Determine Next Step</i>	30
3.6 <i>Deployment</i>	30
3.6.1 <i>Deployment Plan</i>	31
3.6.2 <i>Product Plan</i>	31
BAB IV HASIL DAN PEMBAHASAN	32
4.1 <i>Hasil</i>	32
4.1.1 <i>Hasil Business Understanding / Pemahaman Bisnis</i>	32
4.1.1.1 <i>Determine Business Objective</i>	32
4.1.1.2 <i>Asses Situation</i>	32
4.1.1.3 <i>Determine Data Mining Goals</i>	33
4.1.1.4 <i>Project Plan</i>	33
4.1.2 <i>Hasil Data Understanding / Pemahaman Data</i>	33
4.1.2.1 <i>Data Collection</i>	34
4.1.2.2 <i>Data Description</i>	34
4.1.2.3 <i>Initial Data Exploration</i>	35
4.1.3 <i>Hasil Data Preparation / Persiapan Data</i>	35
4.1.3.1 <i>Data Integration</i>	35
4.1.3.2 <i>Data Cleaning</i>	36
4.1.3.3 <i>Feature Engineering</i>	37
4.1.4 <i>Hasil Modelling / Pembuatan Model</i>	38
4.1.4.1 <i>Select Modelling</i>	38
4.1.4.2 <i>Build Model</i>	38
4.1.4.3 <i>Generate Test Design</i>	39
4.1.5 <i>Hasil Evaluation / Evaluasi</i>	42
4.1.5.1 <i>Evaluate Result</i>	50
4.1.5.2 <i>Determine Next Step</i>	51
4.1.6 <i>Hasil Deployment</i>	51
4.1.6.1 <i>Deployment Plan</i>	52

4.1.6.2 <i>Produce Final</i>	52
4.2 Pembahasan	54
4.2.1 Pembahasan Rumusan Masalah I	54
4.2.2 Pembahasan Rumusan Masalah II	55
BAB V SIMPULAN DAN SARAN	56
5.1 Simpulan	56
5.2 Saran.....	57
DAFTAR PUSTAKA	58
LAMPIRAN	66
DAFTAR RIWAYAT HIDUP	67

