

DAFTAR ISI

HALAMAN PENGESAHAN I	ii
HALAMAN PENGESAHAN II	iii
KATA PENGANTAR	iv
ABSTRAK	v
ABSTRACT	vi
DAFTAR ISI	vii
DAFTAR GAMBAR	x
DAFTAR TABEL	xi
DAFTAR LAMPIRAN	xii
BAB I PENDAHULUAN	1
1.1 Latar Belakang	1
1.2 Rumusan Masalah	4
1.3 Batasan Masalah	5
1.4 Tujuan Penelitian	5
BAB II TINJAUAN PUSTAKA	7
2.1 Wayang Kulit	7
2.2 Punakawan	7
2.3 Citra Digital	8
2.4 <i>Machine Learning</i>	12
2.5 <i>Deep Learning</i>	13
2.6 <i>Data Split</i>	15
2.7 <i>Data Preprocessing</i>	15
2.7.1 <i>Preprocessing</i> Data untuk Metode GLCM	16
2.7.2 <i>Preprocessing</i> Data untuk CNN <i>MobileNetV2</i>	18
2.8 Ekstraksi Fitur <i>Gray-Level Co-Occurrence Matrix</i> (GLCM)	19
2.9 <i>Hyperparameter</i>	24
2.9.1 <i>Learning Rate</i>	24
2.9.2 <i>Batch Size</i>	24
2.9.3 <i>Epoch</i>	25
2.10 Fungsi Aktivasi	25
2.10.1 <i>Rectified Linear Unit</i> (ReLU)	25
2.10.2 <i>Softmax</i>	26

2.11	<i>Multilayer Perceptron (MLP)</i>	27
2.12	<i>Convolutional Neural Network (CNN)</i>	28
2.12.1	<i>Convolutional Layer</i>	29
2.12.2	<i>Pooling Layer</i>	32
2.12.3	<i>Fully Connected Layer</i>	34
2.13	<i>Arsitektur MobileNetV2</i>	34
2.14	<i>Batch Normalization</i>	37
2.15	<i>Model Hybrid</i>	38
2.16	<i>Loss Function</i>	39
2.17	<i>Optimizer Adam</i>	42
2.18	<i>Confusion Matrix</i>	46
BAB III METODOLOGI PENELITIAN		47
3.1	Jenis dan Sumber Data	47
3.2	Variabel Penelitian	47
3.3	Tahapan Analisis Data.....	47
3.4	Diagram Alir Analisis Data	49
BAB IV HASIL DAN PEMBAHASAN		54
4.1	Pengumpulan Dataset	54
4.2	Penentuan <i>Hyperparameter</i>	54
4.3	<i>Splitting Data</i>	55
4.4	<i>Data Preprocessing</i>	56
4.5	Implementasi Ekstraksi GLCM	59
4.6	Pelatihan Model.....	63
4.6.1	<i>Multilayer Perceptron (MLP)</i>	63
4.6.2	<i>MobileNetV2</i>	65
4.6.3	<i>Model Hybrid</i>	73
4.7	<i>Data Processing</i>	76
4.7.1	<i>Multilayer Perceptron (MLP)</i>	76
4.7.2	<i>MobileNetV2</i>	79
4.7.3	<i>Model Hybrid</i>	105
4.8	Evaluasi Model.....	111
4.9	Pengujian Data Baru.....	113
BAB V PENUTUP		114

5.1	Kesimpulan.....	114
5.2	Saran.....	115
	DAFTAR PUSTAKA	116
	LAMPIRAN.....	120