

DAFTAR ISI

DAFTAR ISI.....	i
BAB I PENDAHULUAN.....	1
1.1 Latar Belakang Masalah.....	2
1.2 Rumusan Masalah	2
1.3 Batasan Masalah.....	2
1.4 Tujuan Penelitian.....	2
1.5 Manfaat Penelitian.....	2
1.6 Tahapan Penelitian	2
1.6.1 Metodologi Penelitian	2
1.6.2 Metodologi Pengembangan Sistem.....	3
1.7 Sistematika Penelitian	4
BAB II TINJAUAN LITERATUR.....	5
2.1 Rempah-Rempah.....	5
2.1.1 Jahe (<i>Zingiber officinale</i>).....	5
2.1.2 Kunyit (<i>Curcuma longa</i>).....	5
2.1.3 Lengkuas (<i>Alpinia galanga</i>)	6
2.2 Citra Digital.....	6
2.3 Pengolahan Citra	7
2.3.1 Resizing.....	7
2.3.2 Rescalling.....	8
2.4 Machine Learning	8
2.5 Deep Learning	9
2.6 Artificial Neural Network	9
2.6.1 ReLU	10
2.6.2 Softmax	10
2.6.3 Loss	11
2.7 Convolutional Neural Network	11
2.7.1 Convolutional Layer	12
2.7.2 Pooling Layer.....	13
2.7.3 Flatten	13
2.7.4 Fully Connected Layer.....	14
2.7.5 Global Average Pooling.....	14
2.7.6 Dropout	15
2.8 Random Forest	15
2.8.1 Decision Tree	17
2.8.2 Bootstrap Aggregating	17
2.8.3 Gini Index	18
2.9 K-Fold Cross Validation	18
2.10 Diagram Alur (Flowchart).....	19
2.11 Penelitian Terdahulu	20
BAB III METODOLOGI PENELITIAN DAN PENGEMBANGAN SISTEM.....	23
3.1 Metodologi Penelitian	23
3.1.1 Pengumpulan Data	24
3.1.2 Data Preprocessing.....	24
3.1.3 Perancangan Model.....	25

3.1.4	Pengujian & Evaluasi Model	28
3.2	Metodologi Pengembangan Sistem.....	35
3.2.1	Analisis Kebutuhan.....	35
3.2.2	Perancangan Sistem	36
3.2.3	Implementasi.....	39
3.2.4	Pengujian Sistem.....	39
BAB IV	HASIL DAN PEMBAHASAN	40
4.1	Hasil Implementasi.....	40
4.1.1	Import Library.....	40
4.1.2	Data Preprocessing.....	40
4.1.3	Implementasi Model Hibrid VGG16-Random Forest	42
4.1.4	Pengujian Model Hibrid VGG16-Random Forest	42
4.1.5	Evaluasi Model Hibrid VGG16-Random Forest	45
4.1.6	Hasil Implementasi Pengembangan Sistem	46
4.2	Pembahasan.....	48
BAB V	PENUTUP	50
5.1	Kesimpulan.....	50
5.2	Saran.....	50
DATAR PUSTAKA		51
LAMPIRAN.....		53