

DAFTAR ISI

LEMBAR PENGESAHAN TUGAS AKHIR	i
PENGESAHAN PENGUJI SIDANG TUGAS AKHIR	ii
LEMBAR PERNYATAAN KEASLIAN TUGAS AKHIR.....	iii
ABSTRACT	iv
ABSTRAK.....	v
MOTTO DAN PERSEMBAHAN.....	vi
KATA PENGANTAR.....	vii
DAFTAR ISI	ix
DAFTAR TABEL	xii
DAFTAR GAMBAR.....	xiii
BAB I PENDAHULUAN.....	I-1
1.1 Latar Belakang	I-1
1.2 Rumusan Masalah	I-4
1.3 Tujuan Penelitian	I-5
1.4 Manfaat Penelitian	I-5
1.5 Batasan Masalah.....	I-6
1.6 Sistematika Penulisan	I-7
BAB II LANDASAN TEORI.....	II-1
2.1 Educational Data Mining (EDM).....	II-1
2.2 Supervised learning.....	II-1
2.3 Multi-Class Classification.....	II-1
2.4 SMOTEN	II-2
2.5 Stacking Ensemble	II-4
2.6 Random Forest	II-4
2.7 Gradient Boosting	II-5
2.8 Support Vector Classifier.....	II-6
2.9 CatBoost.....	II-7
2.10 Class Weighting	II-9
2.11 SHAP (Shapley Additive Explanations)	II-10
2.12 LIME	II-10
2.13 Evaluasi Model.....	II-11

2.13.1 <i>Accuracy</i>	II-11
2.13.2 <i>Precision</i>	II-12
2.13.3 <i>Recall</i>	II-12
2.13.4 <i>F1-Score</i>	II-13
2.14 State of The Art.....	II-13
2.15 Matriks Penelitian	II-14
BAB III METODOLOGI PENELITIAN	III-1
3.1 Peta Jalan Penelitian.....	III-1
3.2 Tahapan Penelitian	III-2
3.3 Studi Literatur	III-5
3.4 Pengumpulan Data	III-5
3.5 Praproses Data.....	III-6
3.5.1 <i>Data Cleaning</i>	III-6
3.5.2 <i>Data Transformation</i>	III-6
3.5.3 <i>Data Splitting</i>	III-7
3.5.4 <i>Data Balancing</i>	III-8
3.6 Pengembangan Model.....	III-8
3.6.1 Arsitektur Model	III-10
3.6.2 Pelatihan Model	III-11
3.7 Analisis Model	III-16
3.8 Interpretasi Model	III-17
3.9 Threat to Validity	III-17
BAB IV HASIL DAN PEMBAHASAN	IV-1
4.1 Arsitektur Sistem.....	IV-1
4.2 Pengumpulan Data	IV-3
4.3 Praproses Data.....	IV-3
4.3.1 <i>Data Cleaning</i>	IV-3
4.3.2 <i>Data Transforming</i>	IV-4
4.3.3 <i>Data Splitting</i>	IV-6
4.3.4 <i>Data Balancing</i>	IV-7
4.4 Pengembangan Model.....	IV-11
4.5 Analisis Model	IV-15
4.6 Interpretasi Model	IV-21
4.7 Threat to Validity	IV-30

4.7.1 <i>Internal validity</i>	IV-31
4.7.2 <i>Construct validity</i>	IV-31
4.7.3 <i>Conclusion validity</i>	IV-31
4.7.4 <i>External validity</i>	IV-32
BAB V KESIMPULAN DAN SARAN	V-1
5.1 Kesimpulan	V-1
5.2 Saran.....	V-3
DAFTAR PUSTAKA	1
LAMPIRAN	L-1