

## DAFTAR ISI

ABSTRAK .....	i
ABSTRACT .....	ii
KATA PENGANTAR.....	iii
DAFTAR ISI .....	iv
DAFTAR GAMBAR .....	viii
DAFTAR TABEL .....	x
DAFTAR LAMPIRAN .....	xii
DAFTAR ISTILAH .....	xiii
BAB I PENDAHULUAN .....	1
I.1 Latar Belakang .....	1
I.2 Perumusan Masalah.....	6
I.3 Tujuan Penelitian.....	7
I.4 Batasan Penelitian .....	7
I.5 Manfaat Penelitian.....	7
I.6 Sistematika Penulisan.....	8
BAB II TINJAUAN PUSTAKA .....	9
II.1 <i>Stunting</i> .....	9
II.2 Pemberdayaan Kesejahteraan Keluarga (PKK) Kota Bandung .....	11
II.3 Antropometri Anak .....	12
II.4 Aplikasi Kesehatan .....	14
II.5 Aplikasi <i>Stunting</i> .....	16
II.6 <i>Agile Software Development</i> (ASD) .....	20
II.7 <i>Extreme Programing</i> .....	21
II.8 <i>Machine Learning</i> .....	24
II.9 <i>Deep Learning</i> .....	25

II.10	<i>Computer Vision</i> .....	26
II.11	<i>Convolutional Neural Network (CNN)</i> .....	28
II.11.1	<i>Convulational Layer</i> .....	29
II.11.2	<i>Pooling Layer</i> .....	30
II.11.3	<i>Fully Connected Layer</i> .....	30
II.12	<i>Image Processing and Bounding Box</i> .....	31
II.13	Laravel.....	32
II.14	Python.....	33
II.15	Roboflow .....	35
II.16	Metode Evaluasi Model.....	36
II.17	Metode Pengujian Aplikasi.....	37
II.17.1	<i>Unit Testing</i> .....	37
II.17.2	<i>Integration testing</i> .....	38
II.17.3	<i>System testing</i> .....	38
II.17.4	<i>Acceptance testing</i> .....	39
II.18	Alasan Pemilihan Algoritma.....	40
II.19	<i>State of the Art</i> .....	43
BAB III	METODOLOGI PENELITIAN.....	47
III.1	Model Konseptual.....	47
III.2	Sistematika Penelitian .....	48
III.2.1	Tahap Pendahuluan .....	49
III.2.2	Tahap <i>Extreme Programming (XP)</i> .....	49
III.2.2.1	<i>Planning</i> .....	49
III.2.2.2	<i>Design</i> .....	50
III.2.2.3	<i>Coding</i> .....	50
III.2.2.4	<i>Testing</i> .....	50

III.2.3	Tahap Penutup .....	51
III.3	Alasan Pemilihan Metode .....	51
BAB IV	ANALISIS DAN PERANCANGAN .....	52
IV.1	Analisa Hasil Observasi dan Wawancara.....	52
IV.2	Analisa Proses Bisnis .....	53
IV.2.1	Proses Bisnis Existing.....	53
IV.2.2	Analisa GAP .....	55
IV.2.3	Proses Bisnis Targeting .....	56
IV.3	Analisis Perancangan Sistem.....	57
IV.3.1	Analisa Aktor.....	57
IV.3.2	<i>Use Case diagram</i> .....	58
IV.3.3	<i>Use Case Scenario</i> .....	58
IV.3.4	<i>Activity Diagram</i> .....	61
IV.3.5	<i>Entity Relationship Diagram</i> .....	63
IV.4	Pengumpulan Data.....	64
IV.5	Data Preparation dan Preprocessing .....	66
IV.5.1	Seleksi Gambar.....	66
IV.5.2	<i>Labelling Image</i> .....	67
IV.5.3	<i>Image Augmentation</i> .....	68
IV.5.4	<i>Split Dataset</i> .....	69
IV.6	<i>Modeling</i> .....	70
IV.7	Prediksi Tinggi Badan.....	71
IV.8	Arsitektur API Model.....	72
IV.9	Evaluasi.....	73
BAB V	IMPLEMENTASI DAN PENGUJIAN .....	75
V.1	Implementasi <i>Code</i> .....	75

V.1.1	Model CNN dan Pengukuran .....	75
V.1.2	Implementasi API .....	75
V.1.3	Fitur Pendataan Balita.....	76
V.1.4	Fitur Pengukuran Tinggi Badan .....	77
V.2	<i>Iteration Schedule</i> .....	79
V.3	Iterasi Pertama .....	80
V.3.1	Evaluasi Model.....	80
V.3.2	Pengujian Fitur Pengukuran.....	82
V.4	Iterasi Kedua.....	83
V.4.1	Pengujian Fitur Pengukuran.....	83
V.4.2	<i>Black Box Testing</i> .....	84
V.4.3	<i>Acceptance Test</i> .....	86
V.5	Iterasi Ketiga .....	87
V.5.1	Pengujian Fitur Pengukuran.....	88
V.5.2	<i>Black Box Testing</i> .....	89
V.5.3	<i>Acceptance Test</i> .....	91
V.5.4	Hasil Akhir Akurasi Pengukuran .....	93
BAB VI	PENUTUP .....	94
VI.1	Kesimpulan.....	94
VI.2	Saran .....	94
	DAFTAR PUSTAKA.....	96
	LAMPIRAN .....	106