

DAFTAR GAMBAR

Gambar 2. 1 Arsitektur <i>CNN</i>	7
Gambar 2. 2 <i>Pooling layer</i>	8
Gambar 2. 3 Arsitektur <i>MTCNN</i>	10
Gambar 2. 4 Arsitektur <i>FaceNet</i>	11
Gambar 2. 5 <i>Inseption-resnet</i>	12
Gambar 2. 6 <i>Reduction</i>	12
Gambar 3. 1 Desain <i>smart dorm lock</i> 3d.....	21
Gambar 3. 2 Desain <i>smart dorm lock</i> 3d tampak depan	21
Gambar 3. 3 Arsitektur <i>smart dorm lock</i>	22
Gambar 3. 4 Desain skematik sistem	23
Gambar 3. 5 <i>Flowchart</i> pendaftaran wajah ke <i>database</i>	24
Gambar 3. 6 <i>Flowchart</i> sistem <i>smart dorm lock</i>	25
Gambar 3. 7 <i>UML activity diagram mobile application</i>	26
Gambar 4. 1 Sistem <i>smart dorm lock</i>	31
Gambar 4. 2 Raspberry Pi 5	33
Gambar 4. 3 Sensor <i>PIR (Passive Infrared)</i>	34
Gambar 4. 4 <i>Source code sensor PIR</i>	35
Gambar 4. 5 Relay.....	36
Gambar 4. 6 <i>Source Code Relay</i>	36
Gambar 4. 7 <i>Solenoid Door Lock</i>	37
Gambar 4. 8 <i>LCD Display</i>	39
Gambar 4. 9 <i>Source code LCD</i>	39
Gambar 4. 10 Kamera	40
Gambar 4. 11 <i>Source code kamera</i>	40
Gambar 4. 12 Tampilan <i>Home</i>	42
Gambar 4. 13 Tampilan <i>History Access</i>	43
Gambar 4. 14 Tampilan <i>Dorm List</i>	44
Gambar 4. 15 Tampilan Registrasi dan <i>Delete Dataset</i>	45
Gambar 4. 16 Tampilan <i>Detection</i> dan <i>Stop Detection</i>	46
Gambar 4. 17 <i>Source Code Firebase</i>	46
Gambar 4. 18 Sistem Mengirim Data ke Firebase	47
Gambar 4. 19 Aplikasi memanggil data dari firebase.....	48

Gambar 4. 20 Relasi Database	49
Gambar 4. 21 <i>Source Code import library</i>	50
Gambar 4. 22 <i>Source Code</i> proses gambar menjadi <i>embedding</i>	51
Gambar 4. 23 <i>Source Code</i> proses deteksi.....	53
Gambar 4. 24 <i>Dataset</i> (hadap depan, kiri, kanan, ekspresi senyum dan serius).....	54
Gambar 4. 25 Ukuran <i>Dataset</i>	54
Gambar 5. 1 <i>Confusion Matrix</i>	59
Gambar 5. 2 Hasil evaluasi model	60
Gambar 5. 3 Grafik pengujian jarak.....	71
Gambar 5. 4 Tampilan <i>wireshark</i>	71
Gambar 5. 5 Perhitungan <i>QoS</i> dengan excel.....	72