DAFTAR ISI

LEMBAR PERSETUJUAN ..... **Error! Bookmark not defined.**
LEMBAR PENGESAHAN ..... **Error! Bookmark not defined.**
KATA PENGANTAR ..... **Error! Bookmark not defined.**
ABSTRAK ..... **Error! Bookmark not defined.**
ABSTRACT ..... **Error! Bookmark not defined.**
DAFTAR ISI vi
DAFTAR TABEL ix
DAFTAR GAMBAR x
DAFTAR LAMPIRAN xi
BAB I PENDAHULUAN ..... **Error! Bookmark not defined.**
1.1 Latar Belakang ..... **Error! Bookmark not defined.**
1.2 Rumusan Masalah ..... **Error! Bookmark not defined.**
1.3 Tujuan Penelitian ..... **Error! Bookmark not defined.**
1.4 Manfaat ..... **Error! Bookmark not defined.**
BAB II TINJAUAN PUSTAKA ..... **Error! Bookmark not defined.**
2.1 Yoga dan Analisis Pose Tubuh ..... **Error! Bookmark not defined.**
2.2 *Human Pose Estimation* (HPE) ..... **Error! Bookmark not defined.**
2.3 Deep Learning ..... **Error! Bookmark not defined.**
2.4 *Convolutional Neural Network* (CNN) ..... **Error! Bookmark not defined.**
2.5 Computer Vision ..... **Error! Bookmark not defined.**
2.6 MoveNet ..... **Error! Bookmark not defined.**
2.7 Pose Classification ..... **Error! Bookmark not defined.**
2.8 Sistem Berbasis Web ..... **Error! Bookmark not defined.**
2.9 Evaluasi Model ..... **Error! Bookmark not defined.**
2.9.1 Confusion Matrix ..... **Error! Bookmark not defined.**
2.9.2 Accuracy ..... **Error! Bookmark not defined.**
2.9.3 Precision ..... **Error! Bookmark not defined.**
2.9.4 Recall ..... **Error! Bookmark not defined.**
2.9.5 F1-Score ..... **Error! Bookmark not defined.**
BAB III METODE PENELITIAN ..... **Error! Bookmark not defined.**
3.1 Objek Penelitian ..... **Error! Bookmark not defined.**

3.2 Prosedur Penelitian.....**Error! Bookmark not defined.**
3.2.1 Tahap Pengumpulan Data .....**Error! Bookmark not defined.**
3.2.2 Tahap Pre-Processing.....**Error! Bookmark not defined.**
3.2.3 Tahap Pelatihan Model CNN .....**Error! Bookmark not defined.**
3.2.4 Tahap Evaluasi Model.....**Error! Bookmark not defined.**
3.2.5 Tahap Implementasi Sistem Berbasis Web..... **Error! Bookmark not defined.**
BAB IV HASIL DAN PEMBAHASAN .....**Error! Bookmark not defined.**
4.1 Pengumpulan dan Pengolahan Data.....**Error! Bookmark not defined.**
4.1.1 Hasil Pengumpulan Dataset Yoga.....**Error! Bookmark not defined.**
4.1.2 Hasil Verifikasi dan Struktur Data .....**Error! Bookmark not defined.**
4.2 Hasil Pre-processing Data .....**Error! Bookmark not defined.**
4.2.1 Hasil Augmentasi Data .....**Error! Bookmark not defined.**
4.2.2 Hasil Ekstraksi Keypoint Menggunakan MoveNet....**Error! Bookmark not defined.**
4.2.3 Hasil Normalisasi Data .....**Error! Bookmark not defined.**
4.2.4 Hasil Pembentukan Pose Embedding....**Error! Bookmark not defined.**
4.2.5 Hasil Pembagian Data .....**Error! Bookmark not defined.**
4.2.6 Hasil Pembersihan Data .....**Error! Bookmark not defined.**
4.3 Hasil Pelatihan Model CNN .....**Error! Bookmark not defined.**
4.3.1 Hasil Pelatihan Model .....**Error! Bookmark not defined.**
4.3.2 Representasi Fitur dari Ekstraksi Keypoint..... **Error! Bookmark not defined.**
4.3.3 Hasil Output Probabilitas Model CNN .**Error! Bookmark not defined.**
4.3.4 Hasil Grafik Akurasi .....**Error! Bookmark not defined.**
4.3.5 Hasil Grafik Loss .....**Error! Bookmark not defined.**
4.3.6 Analisis Hasil Pelatihan .....**Error! Bookmark not defined.**
4.4 Hasil Evaluasi Model .....**Error! Bookmark not defined.**
4.4.1 Confusion Matrix .....**Error! Bookmark not defined.**
4.4.2 Hasil Evaluasi Berdasarkan Metrik.....**Error! Bookmark not defined.**
4.4.3 Analisis Performa Model .....**Error! Bookmark not defined.**
4.5 Hasil Implementasi Sistem Berbasis Web ...**Error! Bookmark not defined.**
4.5.1 Konversi Model ke TensorFlow.js.....**Error! Bookmark not defined.**
4.5.2 Tampilan Halaman Utama .....**Error! Bookmark not defined.**

4.5.3 Pemilihan Pose dan Tampilan Instruksi **Error! Bookmark not defined.**

4.5.4 Hasil Pengujian Sistem Secara Real-time ..... **Error! Bookmark not defined.**

4.5.5 Hasil Klasifikasi dan Visualisasi Pose ..**Error! Bookmark not defined.**

4.5.6 Analisis Kinerja Sistem.....**Error! Bookmark not defined.**

BAB V KESIMPULAN DAN SARAN.....**Error! Bookmark not defined.**

5.1 Kesimpulan .....**Error! Bookmark not defined.**

5.2 Saran.....**Error! Bookmark not defined.**

DAFTAR PUSTAKA.....**Error! Bookmark not defined.**

LAMPIRAN.....**Error! Bookmark not defined.**

RIWAYAT PENULIS.....**Error! Bookmark not defined.**

DAFTAR TABEL

Tabel 2. 1 Tabel Penelitian Terkait .....**Error! Bookmark not defined.**
Tabel 4. 1 Contoh Hasil Augmentasi Data Pose Yoga ..... **Error! Bookmark not defined.**
Tabel 4. 2 Koordinat Keypoint Pose (x, y) .....**Error! Bookmark not defined.**
Tabel 4. 3 Pembagian Data Latih dan Validasi.....**Error! Bookmark not defined.**
Tabel 4. 4 Hasil Prediksi Model pada Data Uji .....**Error! Bookmark not defined.**
Tabel 4. 5 Hasil evaluasi kinerja model CNN.....**Error! Bookmark not defined.**

UBP KARAWANG

DAFTAR GAMBAR

Gambar 2. 1 Arsitektur CNN .....**Error! Bookmark not defined.**
Gambar 2. 2 Computer Vision .....**Error! Bookmark not defined.**
Gambar 3. 1 Flowchart Prosedur Penelitian .....**Error! Bookmark not defined.**
Gambar 3. 2 Contoh Citra Dataset .....**Error! Bookmark not defined.**
Gambar 3. 3 Hasil Augmentasi Dataset .....**Error! Bookmark not defined.**
Gambar 3. 4 Movenet Skeleton.....**Error! Bookmark not defined.**
Gambar 3. 5 Arsitektur Model CNN.....**Error! Bookmark not defined.**
Gambar 4. 1 Contoh Citra Dataset .....**Error! Bookmark not defined.**
Gambar 4. 2 Hasil Augmentasi Data Pose Yoga ...**Error! Bookmark not defined.**
Gambar 4. 3 Hasil ekstraksi keypoint .....**Error! Bookmark not defined.**
Gambar 4. 4 Hasil probabilitas klasifikasi dan keputusan akhir model CNN **Error! Bookmark not defined.**
Gambar 4. 5 Proses ekstraksi keypoint dan representasi MoveNet ..... **Error! Bookmark not defined.**
Gambar 4. 6 Grafik akurasi pelatihan dan validasi model CNN.**Error! Bookmark not defined.**
Gambar 4. 7 Grafik loss pelatihan dan validasi model CNN**Error! Bookmark not defined.**
Gambar 4. 8 Confusion matrix hasil klasifikasi pose yoga menggunakan CNN .....**Error! Bookmark not defined.**
Gambar 4. 9 Tampilan halaman utama aplikasi Yoga Trainer ...**Error! Bookmark not defined.**
Gambar 4. 10 Tampilan pemilihan pose dan instruksi pada aplikasi..... **Error! Bookmark not defined.**
Gambar 4. 11 Tampilan deteksi pose skeleton berbasis MoveNet ..... **Error! Bookmark not defined.**
Gambar 4. 12 Pengenalan pose Tree secara real-time ..... **Error! Bookmark not defined.**
Gambar 4. 13 Pengenalan pose Chair secara real-time..... **Error! Bookmark not defined.**

DAFTAR LAMPIRAN

Lampiran 1 Lembar Bimbingan TA.....**Error! Bookmark not defined.**
Lampiran 2 Lembar Pendaftaran Sidang Akhir .....**Error! Bookmark not defined.**
Lampiran 3 Source Code.....**Error! Bookmark not defined.**
Lampiran 4 Source Code.....**Error! Bookmark not defined.**
Lampiran 5 Hasil Turnitin.....**Error! Bookmark not defined.**
Lampiran 6 Hasil Turnitin.....**Error! Bookmark not defined.**