

## DAFTAR ISI

|  |     |
|--|-----|
| LEMBAR PENGESAHAN .....                                      | i   |
| LEMBAR PERNYATAAN ORISINALITAS .....                         | ii  |
| ABSTRAK .....  | iii |
| <i>ABSTRACT</i> .....  | iv  |
| KATA PENGANTAR.....  | v   |
| UCAPAN TERIMA KASIH .....                                    | 1   |
| DAFTAR ISI.....  | 3   |
| DAFTAR GAMBAR.....   | 5   |
| DAFTAR TABEL .....   | 6   |
| DAFTAR SINGKATAN.....  | 7   |
| BAB I PENDAHULUAN.....                                       | 8   |
| 1.1 Latar Belakang .....                                     | 8   |
| 1.2 Rumusan Masalah.....                                     | 9   |
| 1.3 Tujuan .....   | 9   |
| 1.4 Batasan Masalah .....                                    | 9   |
| 1.5 Metode Penelitian.....                                   | 10  |
| BAB II KAJIAN PUSTAKA .....                                  | 11  |
| 2.1 <i>Object Detection</i> .....                            | 11  |
| 2.2 <i>Deep Learning</i> .....                               | 11  |
| 2.3 <i>Convolutional Neural Network (CNN)</i> .....          | 12  |
| 2.3.1 <i>Convolutional Layer</i> .....                       | 12  |
| 2.3.2 <i>Pooling Layer</i> .....                             | 13  |
| 2.4 <i>Python</i> .....                                      | 14  |
| 2.5 <i>You Only Look Once</i> .....                          | 15  |
| 2.6 <i>Simple Online and Realtime Tracking</i> .....         | 17  |
| 2.7 <i>Epoch</i> .....                                       | 17  |
| 2.8 <i>Learning Rate</i> .....                               | 18  |
| 2.9 <i>Batch Size</i> .....                                  | 18  |
| 2.10 <i>Intersect over Union (IoU)</i> .....                 | 18  |
| BAB III PERANCANGAN SISTEM .....                             | 20  |
| 3.1 Perancangan Sistem .....                                 | 20  |
| 3.1.1 <i>Dataset Preprocessing</i> .....                     | 21  |
| 3.1.2 <i>Load Dataset Latih dan Weight HDF5 YOLOv3</i> ..... | 21  |

|  |           |
|--|-----------|
| 3.1.3 Skema Konfigurasi <i>Hyperparameter</i> Model..... | 22        |
| 3.1.4 <i>Training Model</i> .....                        | 22        |
| 3.1.5 Pengujian Model.....                               | 23        |
| 3.1.6 Pengimpelemtasian Model .....                      | 23        |
| 3.1.7 Analisis Parameter Perfomansi.....                 | 23        |
| 3.2 Sesifikasi Perangkat .....                           | 25        |
| 3.2.1 Perangkat Keras.....                               | 25        |
| 3.2.2 Perangkat Lunak.....                               | 25        |
| <b>BAB IV HASIL DAN ANALISIS .....</b>                   | <b>27</b> |
| 4.1 Pengujian Model.....                                 | 27        |
| 4.2 Hasil Pengujian Model.....                           | 27        |
| 4.3 Analisis Hasil Pengujian Model .....                 | 29        |
| 4.3.1 Pengujian Terhadap Parameter AP .....              | 29        |
| 4.4 Hasil Pengujian Akurasi .....                        | 31        |
| 4.4.1 Hasil Pengujian Garis Virtual.....                 | 31        |
| 4.4.2 Analisis Hasil Pengujian Akurasi .....             | 32        |
| <b>BAB V KESIMPULAN DAN SARAN .....</b>                  | <b>34</b> |
| 5.1 Kesimpulan .....                                     | 34        |
| 5.2 Saran.....   | 34        |
| <b>DAFTAR PUSTAKA .....</b>                              | <b>35</b> |
| <b>LAMPIRAN</b>  |           |