

## DAFTAR ISI

|                                        |      |
|----------------------------------------|------|
| LEMBAR PENGESAHAN .....                | ii   |
| LEMBAR ORISINALITAS .....              | ii   |
| ABSTRAK .....                          | iv   |
| <i>ABSTRACT</i> .....                  | v    |
| KATA PENGANTAR .....                   | vi   |
| UCAPAN TERIMA KASIH .....              | vii  |
| DAFTAR ISI .....                       | viii |
| DAFTAR GAMBAR .....                    | x    |
| DAFTAR TABEL .....                     | xii  |
| BAB 1 .....                            | 13   |
| 1.1 Latar Belakang .....               | 13   |
| 1.2 Rumusan Masalah .....              | 15   |
| 1.3 Tujuan dan Manfaat .....           | 16   |
| 1.4 Batasan Masalah .....              | 16   |
| 1.5 Metode Penelitian .....            | 16   |
| BAB 2 .....                            | 19   |
| 2.1 Tinjauan Pustaka .....             | 19   |
| 2.2 Dasar Teori .....                  | 31   |
| 2.2.1 <i>Electrocardiogram</i> .....   | 31   |
| 2.2.2 <i>Deep Learning</i> .....       | 34   |
| 2.2.3 <i>Confussion Matrix</i> .....   | 42   |
| BAB 3 .....                            | 45   |
| 3.1 Subjek dan Objek Penelitian .....  | 45   |
| 3.1.1 Subjek Penelitian .....          | 45   |
| 3.1.2 Objek Penelitian .....           | 48   |
| 3.2 Alat dan Bahan .....               | 49   |
| 3.2.1 Perangkat Keras (Hardware) ..... | 49   |

|                                        |    |
|----------------------------------------|----|
| 3.2.2 Perangkat Lunak (Software) ..... | 49 |
| 3.3 Bahan Penelitian .....             | 50 |
| 3.4 Diagram Alur penelitian .....      | 52 |
| 3.4.1 Perumusan masalah .....          | 52 |
| 3.4.2 Studi Literatur .....            | 53 |
| 3.4.3 Pengumpulan dataset .....        | 53 |
| 3.4.4 EDA .....                        | 54 |
| 3.4.5 Preprocessing .....              | 54 |
| 3.4.7 Training Model .....             | 55 |
| 3.4.8 Testing Model .....              | 56 |
| 3.4.9 Analisis Hasil Model .....       | 56 |
| BAB 4 .....                            | 57 |
| 4.1 Konfigurasi Eksperimen .....       | 57 |
| 4.1.1 Model CNN .....                  | 57 |
| 4.1.2 Model RNN, LSTM, GRU .....       | 57 |
| 4.2 Training Model .....               | 57 |
| 4.2.1 Model CNN .....                  | 58 |
| 4.2.2 Model RNN .....                  | 58 |
| 4.2.3 Model LSTM .....                 | 59 |
| 4.2.4 Model GRU .....                  | 60 |
| 4.3 Testing Model .....                | 60 |
| 4.3.1 Model CNN .....                  | 60 |
| 4.3.2 Model RNN .....                  | 61 |
| 4.3.3 Model LSTM .....                 | 62 |
| 4.3.4 Model GRU .....                  | 63 |
| 4.4 Hasil Analisis .....               | 63 |
| BAB 5 .....                            | 65 |
| 5.1 Kesimpulan .....                   | 65 |
| 5.2 Saran .....                        | 65 |
| DAFTAR PUSTAKA .....                   | 67 |