

PENGEMBANGAN SISTEM AIOT DETEKSI KELAINAN JANTUNG MANUSIA BERBASIS SINYAL ECG

by Fatchul Arifin, Aris Nasuha, Ardy Seto Priambodo, Anggun Winursito, Herjuna Artanto, Nuzul Fauzan Mustova

ABSTRACT

Heart attack disease is one of the deadliest diseases in the world. Many cases of heart disease sufferers become more severe because of the delay in detecting the disease. The large number of patients with heart disease has become a priority for many researchers in medicine and other fields to continue to develop technology that is able to detect symptoms of heart disease. One technology that continues to be developed by many researchers is an automatic heart abnormality detection system based on Electrocardiogram (ECG) signals. Several studies have indeed been carried out to build an automatic heart abnormality detection system, but they have not yet produced maximum output, including the low accuracy of the recognition system and the poor flexibility of hardware devices.

Based on this, this study aims to develop an early detection system for human heart defects based on ECG signals in terms of the accuracy of the introduction of the detection system and the development of hardware devices.

This research method is a research and development (Research and Development) conducted to develop algorithms and product prototypes. In detail, the phases in the development method include (a) literature review, (b) data collection, (c) design, (d) development, (e) implementation, (f) testing, (g) system feasibility test. The results of the study while a heart abnormality detection system algorithm has been designed using the ANN and CNN methods with an accuracy of more than 95%. The hardware system has also been successfully designed based on the Internet of Things.

Kata Kunci: *Heart disease, internet of things, ANN, CNN*