

**Sistem Deteksi Dini Stroke Iskemik dengan Metode Naïve Bayes Berdasarkan Rekam Medis di Rumah Sakit Bhayangkara Bondowoso.** (*Early Detection System of Ischemic Stroke Using The Naïve Bayes Method Based on Medical Records At Bhayangkara Hospital Bondowoso*). Mudafiq Riyan Pratama, S.Kom., M.Kom (Pembimbing I)

**Eva Azzahra Nur Faradisa**  
Program Studi Manajemen Informasi Kesehatan  
Jurusan Kesehatan

## **ABSTRACT**

*Ischemic Stroke is one of the leading causes of high morbidity among adult patients. Based on the top ten morbidity data of Bhayangkara Bondowoso Hospital in 2024, Ischemic Stroke ranked fifth with a total of 2,051 cases. This study aims to analyze patients' clinical data and to develop an Ischemic Stroke classification model using the Naïve Bayes algorithm as the basis for a web-based early detection system. This study utilized medical record data of Neurology Outpatient Clinic patients at Bhayangkara Bondowoso Hospital, consisting of 277 records, of which 255 clean data were obtained after the preprocessing stage and used for analysis. The independent variables examined included extremity paralysis, balance function disorders, visual impairment, hearing impairment, somatic sensory disorders, verbal speech disorders, age, sex, history of hypertension, diabetes mellitus, hyperlipidemia, smoking history, and obesity, while the dependent variable was the classification of Ischemic Stroke. The data were divided using a stratified sampling technique with an 80:20 ratio, resulting in 204 training data and 51 testing data. Model performance evaluation was conducted using a confusion matrix on the testing data, yielding an accuracy of 98.04%, precision of 100%, and recall of 97.05%. The results indicate that the Naïve Bayes algorithm demonstrates excellent performance in classifying Ischemic Stroke based on the clinical variables used. Based on the evaluated model, a web-based early detection system for Ischemic Stroke was subsequently developed using the Waterfall development method, which includes the stages of communication, planning, modeling, construction, and deployment. Functional and system performance testing showed that the system is able to provide accurate detection results and is consistent with the developed classification model.*

*Keywords : Early Detection System, Naïve Bayes Algorithm, Ischemic Stroke, Waterfall*