

**Classification of Acute Respiratory Infections (ARI) Using the Naive Bayes
Method at the Candipuro Health Center**

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ABSTRACT

Acute Respiratory Tract Infections (ARI) are among the most common conditions at the Candipuro Community Health Center. Based on medical record data from 2024–2025, there were 3,481 cases of upper ARI and 325 cases of pneumonia. The high number of cases and the similarity of symptoms underscore the need for an accurate classification method. This study aims to classify Upper ARI and pneumonia using the Naïve Bayes algorithm based on patient symptom data from the Candipuro Community Health Center in Lumajang Regency. The research method used was data mining with the Naïve Bayes algorithm. The study utilized 557 medical records, consisting of 288 Upper Respiratory Tract Infection (URTI) cases and 269 pneumonia cases. The variables used included 10 symptoms: cough, fever, nasal congestion, sore throat, shortness of breath, headache or dizziness, hoarseness, runny nose, decreased appetite, and weakness or fatigue. The model was evaluated using the Supplied Test Set method with three data split scenarios for training and testing: 70:30, 80:20, and 90:10. The test results showed that the 90:10 ratio delivered the best performance, with an accuracy of 96.43%. The model was then implemented into a web-based screening system to assist in the initial classification of upper respiratory tract infections based on patients' symptoms.

Keywords : *Classification, Confusion Matrix, Data Mining, ISPA, Naive Bayes.*