

**PREDIKSI PENDERITA DIARE DENGAN METODE SEASONAL
AUTOREGRESSIVE INTEGRATED MOVING AVERAGE (SARIMA) DI
KOTA BANDUNG**

SKRIPSI

Diajukan untuk Memenuhi Bagian dari
Syarat Memperoleh Gelar Sarjana Komputer
Pada Departemen Pendidikan Ilmu Komputer



oleh

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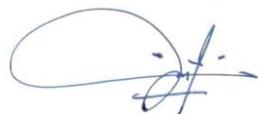


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ABSTRAK

Abstrak— Diare merupakan penyakit kedua yang menyebabkan kematian pada anak-anak di dunia. Setiap tahunnya, sekitar 1,7 juta kasus diare ditemukan dan menyebabkan sekitar 525.000 kematian pada anak di bawah usia lima tahun di dunia. Analisis yang tepat dari data layanan kesehatan dapat membantu memprediksi epidemi, penyembuhan, dan penyakit, serta meningkatkan kualitas hidup dan menghindari kematian yang dapat dicegah. Penelitian ini ditujukan untuk memprediksi penderita diare di masa yang akan datang dengan menggunakan *Seasonal Autoregressive Integrated Moving Average (SARIMA)* dan *Seasonal Autoregressive Integrated Moving Average with explanatory X (SARIMAX)* dengan melibatkan faktor cuaca berupa temperatur rata-rata dan kelembapan rata-rata. Data yang digunakan adalah data jumlah penderita diare dan data cuaca pada tahun 2010-2019 di Kota Bandung. Pada hasil penelitian, diperoleh bahwa temperatur dan kelembapan memiliki pengaruh yang tidak signifikan terhadap jumlah terjadinya kasus diare di Kota Bandung dan model SARIMA memiliki hasil yang lebih baik daripada model SARIMAX dengan penambahan faktor cuaca. Akurasi prediksi dari model SARIMA yang di dapat adalah 78,6%.

Kata Kunci: *Diare, Time Series, SARIMA, SARIMAX*

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ABSTRACT

Abstract – Diarrhea is the second disease that causes death in children in the world. Every year, around 1.7 million cases of diarrhea are found and cause around 525,000 deaths in children under the age of five in the world. Proper analysis of health service data can help predict epidemics, cure, and disease, and improve quality of life and avoid preventable deaths. This research is aimed at predicting diarrhea sufferers in the future by using Seasonal Autoregressive Integrated Moving Average (SARIMA) and Seasonal Autoregressive Integrated Moving Average with explanatory X (SARIMAX) by involving climate factors in the form of average temperature and average humidity. The data used are data of diarrhea sufferers and climate in 2010-2019 in the city of Bandung. The result shows that there is not significant relation between temperature or humidity and the diarrhea cases in Bandung and the SARIMA model had better results than the SARIMAX model with the addition of climate factors. The predictive accuracy of the SARIMA model obtained is 78.6%.

Keywords: *Diarrhea, Time Series, SARIMA, SARIMAX*

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