

TESIS

**PROGRAM STATISTIK
MODEL AUTOREGRESI
DENGAN METODE BOOTSTRAP
(DALAM ANALISIS DATA YANG BERSIFAT DEPENDEN)**



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**PROGRAM PASCA SARJANA
UNIVERSITAS AIRLANGGA
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PENELITIAN PENGEMBANGAN

TESIS

Untuk memperoleh Gelar Magister
Dalam Program Studi Ilmu Kesehatan Masyarakat
Pada Program Pascasarjana Universitas Airlangga

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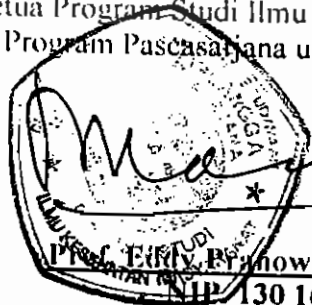
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ABSTRACT

Dependent data is data that's influenced by external factor likes time, seasons, locations, order, machines, etc. The data are sometimes occur when we analyzed research data. If we dont care the external factor of the data, the data will make the model with lower accuracy of reliability and validity.

Efron and Tibshirani (1993) said that the solution of the data is not easy, so the model for using the data are dependent models. likes Auto Regression or others dependent model.

The research is conducted to make a statistic software for auto regressive model with bootstrap method. The software has two main purpose, first the software is conducted for research data, and second it's conducted for educative program.

The research is done step by step. First, We make a statistic software ARBM (Auto Regressive Bootstrap Method), and second we analyzed the data research.

The statistic software is made from the concept statistics, that include auto regressive model and bootstrap method. Auto regressive model include the least square method and the forward method for selection model. The bootstrap method include bootstrapping residual method and measurement of accuracy model. After that the statistical concept is translated to the statistic software by turbo pascal language program.

From analyzing data known that the statistic software ARBM is available for analyzing dependent data.

From visiting of pregnant mothers data in Mulyorejo primary healthcare (Puskesmas Mulyorejo) in Surabaya City, since August 1998 until March 1999, the model statistics, that can be made is $\hat{Y}_t = 0.41.Y_{t-1} + 0.40.Y_{t-2} - 0.25.Y_{t-3}$.

The mathematics model is the approach model of the model of visting of pregnant mothers in Mulyorejo primary healthcare, in Surabaya City, since August 1998 until March 1999.

The accuracy of the model is 2.728 ($RSE_{Adjusted}$) and the bias estimated of the coeffisien of the model are $Bias_b[1] = 0.323$, $Bias_b[2] = - 0.526$, and $Bias_b[3] = 7.165$. And the standard error of the coefficient of the model are , $SE_b[1] = 0.569$, $SE_b[2] = 0.349$, and $SE_b[3] = 8.235$.