

ABSTRAK

AFANDI WARIYANTO BIGA, 2024. PERBANDINGAN METODE AUTOREGRESSIVE FRACTIONALLY INTEGRATED MOVING AVERAGE DAN METODE AUTOREGRESSIVE INTEGRATED MOVING AVERAGE-FEED FORWARD NEURAL NETWORK. Skripsi. Gorontalo. Program Studi Matematika. Jurusan Matematika. Fakultas Matematika dan Ilmu Pengetahuan Alam. Universitas Negeri Gorontalo.
Pembimbing : **(1) Nurwan, S.Pd., M.Si.(2) Isran K. Hasan, S.Pd., M.Si.**

Penelitian ini membahas pemodelan harga saham PT. Telekomunikasi Indonesia Tbk menggunakan dua pendekatan, yaitu ARFIMA (Autoregressive Fractionally Integrated Moving Average) dan ARIMA-FFNN (Autoregressive Integrated Moving Average - Feedforward Neural Network). Model ARFIMA digunakan untuk menangkap sifat long memory dalam data harga saham, sedangkan model ARIMA-FFNN mengombinasikan pendekatan statistik dan kecerdasan buatan untuk meningkatkan akurasi peramalan. Hasil analisis menunjukkan bahwa model ARFIMA(1,d,1) memiliki Mean Absolute Percentage Error (MAPE) sebesar 2,11%, sementara model ARIMA(0,d,2)-FFNN(0,2) memiliki MAPE lebih rendah, yaitu 1,28%. Dengan demikian, model ARIMA-FFNN terbukti lebih optimal dalam meramalkan harga saham dibandingkan ARFIMA. Penelitian ini menunjukkan bahwa pendekatan hibrida seperti ARIMA-FFNN dapat meningkatkan akurasi peramalan, sehingga dapat digunakan sebagai alat bantu bagi investor dan analis dalam pengambilan keputusan investasi.

Kata Kunci: *ARFIMA, ARIMA-FFNN, harga saham, peramalan, MAPE, kecerdasan buatan*

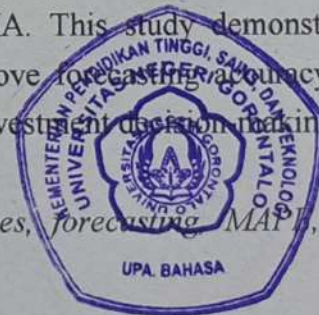
ABSTRACT

AFANDI WARIYANTO BIGA, 2024. COMPARISON OF THE AUTOREGRESSIVE FRACTIONALLY INTEGRATED MOVING AVERAGE METHOD AND THE AUTOREGRESSIVE INTEGRATED MOVING AVERAGE – FEEDFORWARD NEURAL NETWORK METHOD. Undergraduate Thesis. Gorontalo. Department of Mathematics, Faculty of Mathematics and Natural Sciences, Universitas Negeri Gorontalo.

The Supervisors: (1) Nurwan, S.Pd., M.Si., (2) Isran K. Hasan, S.Pd., M.Si.

This study discusses the modeling of PT. Telekomunikasi Indonesia Tbk's stock prices using two approaches: ARFIMA (Autoregressive Fractionally Integrated Moving Average) and ARIMA-FFNN (Autoregressive Integrated Moving Average – Feedforward Neural Network). The ARFIMA model is used to capture the long-memory characteristics in stock price data, while the ARIMA-FFNN model combines statistical methods and artificial intelligence to enhance forecasting accuracy. The analysis results show that the ARFIMA(1,d,1) model has a Mean Absolute Percentage Error (MAPE) of 2,11%, while the ARIMA(0,d,2)-FFNN(0,2) model has a lower MAPE of 1,28%. Thus, the ARIMA-FFNN model proves to be more optimal in forecasting stock prices compared to ARFIMA. This study demonstrates that hybrid approaches like ARIMA-FFNN can improve forecasting accuracy, making them valuable tools for investors and analysts in investment decision making.

Keywords: *ARFIMA, ARIMA-FFNN, stock prices, forecasting, MAPE, artificial intelligence*



LEMBAR PERSETUJUAN PEMBIMBING

**Skripsi yang berjudul "PERBANDINGAN METODE *AUTOREGRESSIVE
FRACTIONALLY INTEGRATED MOVING AVERAGE* DAN METODE
*AUTOREGRESSIVE INTEGRATED MOVING AVERAGE-FEED FORWARD
NEURAL NETWORK*"**

(Studi Kasus: Harga Saham di PT. Telekomunikasi Tbk)

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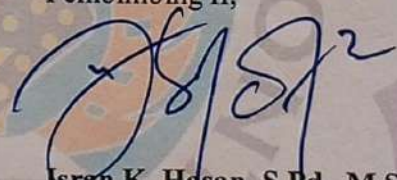
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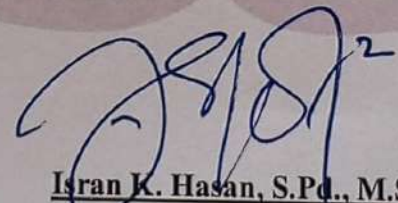
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