

ABSTRAK

Penelitian ini membahas pengembangan model prediksi harga *Iphone second* berdasarkan kondisi unit menggunakan algoritma *Random Forest Regression* dan diimplementasikan dalam aplikasi berbasis *website*. Dataset sebanyak 542 data diperoleh dari *Marketplace Facebook* dan grup jual beli *Iphone*, dengan variabel meliputi tipe, kapasitas penyimpanan, garansi, *Face ID*, dan *Truetone*. Metode penelitian menggunakan CRISP-DM, melalui tahapan *business understanding*, *data understanding*, *data preparation*, *modeling*, *evaluation*, dan *deployment*. Model diuji pada pembagian data 80%–20%, 70%–30%, dan 60%–40% dengan hasil MAE 8,32%–8,42% dan RMSE 10,64%–10,88%, menunjukkan akurasi yang baik dan konsisten. Sistem yang dibangun mampu memberikan rekomendasi harga secara otomatis sesuai kondisi unit, sehingga dapat membantu penjual maupun pembeli dalam menentukan harga yang wajar.

Kata Kunci: Prediksi harga, *Iphone second*, *Random Forest Regression*, CRISP-DM, *Machine Learning*



ABSTRACT

This study presents the development of a price prediction model for second-hand iPhones based on unit conditions using the Random Forest Regression algorithm, implemented in a web-based application. A dataset of 542 records was collected from Facebook Marketplace and iPhone trading groups, with variables including iPhone type, storage capacity, warranty status, Face ID, and Truetone. The research employed the CRISP-DM methodology through the stages of business understanding, data understanding, data preparation, modeling, evaluation, and deployment. The model was tested using data splits of 80%–20%, 70%–30%, and 60%–40%, resulting in MAE values of 8.32%–8.42% and RMSE values of 10.64%–10.88%, indicating good and consistent accuracy. The developed system can automatically provide price recommendations based on unit conditions, assisting both sellers and buyers in determining fair market prices.

Keywords: Price prediction, second-hand Iphone, Random Forest Regression, CRISP-DM, Machine Learning

