

## ABSTRACT

Gold price prediction is a time series formulation case, therefore the problem to be solved is how to get a prediction output with the pattern of price changes and accuracy values in accordance with the original data. The gold price which used based on US Dollar currency. The method used is the combination of Artificial Neural Network (ANN) with training algorithm Extended Kalman Filter (EKF). Training algorithm EKF formulated a non linear system into a linear system. In this case the EKF considers that the initialized weights is the optimal weights which have noise, hence the noise should be erased or minimized to obtain the converged weights. Gold price prediction using EKF method is able to provide values prediction accuracy results in the form of the MSE = 0.5693, MAPE = 0.07%, and accuracy = 99.93% in just 20 iterations.

**Keywords** : prediction , time series , artificial neural networks , extended kalman filter