

## Project Proposal – Korel Gundem

I have selected the problem of forecasting inflation in Turkey using LSTM networks because inflation is an important economic indicator and has a significant impact on the country's economy. Forecasting inflation accurately can help policymakers make informed decisions and take appropriate measures to control inflation.

I will be using data obtained from Turkish Statistical Institute, Federal Reserve Economic Data, and World Bank data. The dataset is large enough to train a deep network as it contains historical data spanning several years.

I will be using a standard form of LSTM network with a single hidden layer. However, I may need to customize it depending on the performance of the network on the dataset.

I will be using the Keras framework to implement the network. Keras is a popular and easy-to-use deep learning framework that has good support for building LSTM networks.

I will be using reference materials such as research papers, books, and online resources on LSTM networks and time series forecasting to obtain sufficient background knowledge on applying the chosen network to the specific problem.

I will judge the performance of the network by measuring the Mean Absolute Error (MAE), Mean Squared Error (MSE), and Root Mean Squared Error (RMSE) between the predicted and actual inflation values. I will also use visualization techniques such as line charts and scatter plots to compare the predicted and actual values visually.

I plan to complete the project in 2-3 weeks. In the first week, I will collect and preprocess the data. In the second and third weeks, I will build and train the LSTM network and ARIMA model, and compare their performances. Finally, I will evaluate the network's performance, write the report, and prepare the presentation.