

# **RETAIL DEMAND FORECASTING USING CNN-LSTM MODEL**

## **ABSTRACT**

The project work proposes a deep learning model to predict the stock that would be required by a store in a particular period with the help of historic information such as past sales. This task could help a business to run smoothly and make sound decisions but are very hard to predict accurately. A CNN- LSTM (Convolutional Neural Network- Long Short-Term Memory Network) model is proposed to forecast retail demand. This model equips the Swish Activation Function. This works better than the traditional and most successful activation function ReLU (Rectified Linear Unit). Data from 10 stores each consisting of 50 items are taken as input. This proposed work has implemented various other models such as Multilayer Perceptron, Long Short-Term Memory cells, Convolutional Neural Networks to predict sales. The experiment results suggest using CNN- LSTM Model as it has considerably lower RMSE (Root Mean-Squared Error).