

## **DEMAND FORECASTING USING ARTIFICIAL NEURAL NETWORKS OPTIMIZED BY ARTIFICIAL BEE COLONY**

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### **ABSTRACT**

Bee colony algorithms are new swarm intelligence techniques inspired from the smart behaviors of real honeybees in their foraging behavior. This paper examines the use of Artificial Bee Colony (ABC) to train a multi-layer feed forward neural network for demand forecasting. We use in this paper two data sets represent the weekly demand data for cement and towels, which have been outfitted by the Sorthern General Company for Cement and General Company of prepared clothes respectively. The results showed superiority of trained neural networks using ABC on neural networks trained using error back propagation because their ability to escape from local optima.

**KEYWORDS:** Artificial Bee Colony, Artificial Neural Network, Demand Forecasting, Evolutionary Algorithms, Weight Optimization