

## An Artificial Intelligence Approach for Reducing Drug Trafficking in Sri Lanka

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Stopping drug trafficking plays a significant role in the government of any country. In that case, gateways should be adequately inspected and protected. In Sri Lanka, The Sri Lankan customs is the leading government authority that is directly interfering with these factors and personnel. Customs administrations are increasingly adopting risk management techniques to determine where the highest areas of exposure to risk exist and how to allocate scarce resources to manage these risks effectively. To achieve these goals, customs should be moving away from traditional control methods and adopting new approaches to their tasks. The purpose of this research is to introduce an artificial neural network model for identifying suspected personnel and carriers. The dataset used is obtained from the Narcotics Control Unit, Sri Lanka Customs and it contains details of 430 passengers, which is checked by Sri Lankan Customs. The proposed model contains two hidden layers with ten neurons in the first layer and eight neurons in the second layer. The model was trained by changing the number of hidden layers and the number of neurons. The accuracy of identifying suspected personnel in the training process while training the model using a training dataset and the accuracy of identifying suspected personnel in the testing process while testing the model using testing dataset is 98% and 71% respectively. The mean absolute error of the model for the testing dataset is 0.20. This model will be helpful for customs operations to minimize the manual inspection of goods and maximize the number of frauds detected.

**Keywords:** Artificial neural network, risk management, mean absolute error