

SOLVING SYSTEMS OF LINEAR DIFFERENTIAL EQUATIONS BY
USING ARTIFICIAL NEURAL NETWORKS

İclal Gör¹, Korhan Günel ²

^{1,2}*Adnan Menderes University, Aydın, Turkey*

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Abstract

Artificial neural networks (ANNs) are well known computational methods which can solve different mathematical problems such as approximating the solution of differential equations. In this work, we solve systems of linear differential equations by using ANN called Multi Layer Perceptron (MLP). We present numerical solutions by MLP and compare them with the analytical solutions. The obtained results show that the artificial neural networks are able to solve systems of linear differential equations.

Keywords: Systems of linear differential equations, Feedforward Neural Network, Multi Layer Perceptron, Backpropagation algorithm.

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¹First Author's e-mail: iclal@adu.edu.tr

²Second Author's e-mail: kgunel@adu.edu.tr