

## Neural Algorithm for Solving Differential Equations

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Finite difference equations are considered to solve differential equations numerically by utilizing minimization algorithms. Neural minimization algorithms for solving the finite difference equations are presented. Results of numerical simulation are described to demonstrate the method. Methods of implementing the algorithms are discussed. General features of the neural algorithms are discussed. © 1990 Academic Press, Inc.

### I. INTRODUCTION

Numerical computation in many disciplines, such as physics, applied mathematics, electrical engineering, biochemistry, etc., has received a great deal of attention recently as a practical technique to understand complex phenomena that are almost impossible to treat analytically [1]. Supercomputers have been built to speed up the calculation. Furthermore, new computing algorithms based on the concept of concurrent processing have been developed and implemented by connecting a small number of processors.

Recently, highly parallel neural networks have been investigated extensively to solve complicated problems such as pattern recognition and combinatorial optimization [2]. Linear simultaneous equations also have been treated by applying neural networks [3]. Implementation of neural networks by utilizing volume holographic optical interconnections have proved to be promising [4].

One of the most general methods of solving differential equations is to use finite difference equations and to solve the algebraic equations [5]. The computational load for solving the difference equations increases very fast as the number of discrete points becomes large. Therefore, a highly parallel algorithm to solve the finite difference equations is essential when a complicated problem is encountered. In this paper, neural algorithms for minimization are utilized to develop highly parallel

# Neural Algorithm For Solving Differential Equations

**Mohan C. Joshi**



## **Neural Algorithm For Solving Differential Equations:**

## Whispering the Strategies of Language: An Emotional Journey through **Neural Algorithm For Solving Differential Equations**

In a digitally-driven world wherever displays reign great and instant conversation drowns out the subtleties of language, the profound secrets and emotional subtleties concealed within words usually go unheard. Yet, nestled within the pages of **Neural Algorithm For Solving Differential Equations** a interesting fictional value pulsating with raw thoughts, lies an extraordinary journey waiting to be undertaken. Composed by an experienced wordsmith, that enchanting opus attracts readers on an introspective journey, lightly unraveling the veiled truths and profound affect resonating within the fabric of each word. Within the psychological depths with this emotional evaluation, we shall embark upon a heartfelt exploration of the book is key subjects, dissect its charming publishing type, and fail to the powerful resonance it evokes strong within the recesses of readers hearts.

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table of content next page enhancement adds code to the application data classes to integrate them with jdo as a result of enhancement the enhanced class implements the persistencecapable interface when jdo acts on an application data object it acts on it as a persistencecapable object

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object fields are accessed by their name you must use a name that is unambiguous you may use a simple name for a field within its own class for example we can add a statement within the rectangle class that prints the width and height system out println width and height are width height in this case width and height are

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managers using a persistence manager the application can control the life cycle and caching of application data objects it can get the identity object for a persistent application data object and it can later fetch the persistent object that corresponds to an identity object finally the persistence manager interface has factory methods

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