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Baishakhi Adhikary; Loknath Ghosh; Subham Samanta;
Faizan Haider; Sandip Chakraborty
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The function of data structures in a variety of computing contexts, such as web development, video games, computer graphics, artificial intelligence, and operating systems, is examined in this study. For the functionality and usability of software programmes, data structures are necessary for effectively organising and manipulating data. The study examines the various data structures employed in e... [Show More](#)

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Baishakhi Adhikary; Loknath Ghosh; Subham Samanta; Faizan Haider; Sandip Chakraborty

2023 3rd Asian Conference on Innovation in Technology (ASIANCON)

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Abstract:

The function of data structures in a variety of computing contexts, such as web development, video games, computer graphics, artificial intelligence, and operating systems, is examined in this study. For the functionality and usability of software programmes, data structures are necessary for effectively organising and manipulating data. The study examines the various data structures employed in each industry and how they support effective algorithms for certain tasks. For instance, web browsers store and manage web page data using linked lists, hash tables, and trees, whereas video games handle game characters and objects using arrays, linked lists, and graphs. The significance of knowing the proper data structures for certain applications is also covered in this paper as a way to streamline software development. This study seeks to offer insightful understandings into the relevance of data structures and their applications in software development by examining the use of data structures in various computing domains.

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☰ Contents

I. Introduction

We are stepping into a new age of learning, teaching and computing where we have plenty of useful data available on any particular subject which needs to be accessed anytime and efficiently on any device at any instant of time, and for this purpose various different data structures are used based on the type of the data [1].

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