Patent Search

Invention Title	DEEP LEARNING TECHNIQUES FOR ENUMERATION OF SPANNING TREES OF COMPLETE MULTIPARTITE GRAPHS CONTAINING A FIXED S FOREST
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Abstract:

The present invention introduces a groundbreaking approach to the enumeration of spanning trees within complete multipartite graphs containing predetermined fi forests. Leveraging deep learning techniques and advanced computational algorithms, this innovation offers an efficient and adaptable solution to a longstanding pr graph theory. By integrating neural networks, graph embeddings, and reinforcement learning, the invention can efficiently analyze complex graph structures, providir tool for network design, computer-aided design (CAD), circuit analysis, social network analysis, and transportation planning. With scalability, adaptability, and practica core, this invention opens new horizons for graph analysis and optimization across a myriad of industries and applications.

Complete Specification

Description:FIELD OF THE INVENTION

The present invention pertains to the field of graph theory, computational algorithms, and deep learning techniques. Specifically, the invention relates to methods a systems for the enumeration of spanning trees within complete multipartite graphs containing a fixed spanning forest. The invention finds application in various do where graph analysis and optimization are essential, including but not limited to network design, computer-aided design (CAD), circuit analysis, and complex systen modeling. The deep learning techniques employed in this invention offer a novel and efficient approach to solving problems related to graph enumeration and anal especially in scenarios involving complete multipartite graphs with predefined fixed spanning forests.

BACKGROUND OF THE INVENTION

The following description of related art is intended to provide background information pertaining to the field of the disclosure. This section may include certain asp the art that may be related to various features of the present disclosure. However, it should be appreciated that this section be used only to enhance the understan the reader with respect to the present disclosure, and not as admissions of prior art.

Graph theory is a fundamental field within mathematics and computer science that deals with the study of graphs, which consist of nodes (vertices) and edges conr these nodes. Spanning trees, a crucial concept in graph theory, are subgraphs of a given graph that contain all the nodes and are acyclic, i.e., they do not form any c

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