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Graph Databases in Molecular Biology

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Abstract

In recent years, the increase in the amount of data generated in basic social practices and specifically in all fields of research has boosted the rise of new database models, many of which have been employed in the field of Molecular Biology. NoSQL graph databases have been used in many types of research with biological data, especially in cases where data integration is a determining factor. For the most part, they are used to represent relationships between data along two main lines: (i) to infer knowledge from existing relationships; (ii) to represent relationships from a previous data knowledge. In this work, a short history in a timeline of events introduces the mutual evolution of databases and Molecular Biology. We present how graph databases have been used in Molecular Biology research using High Throughput Sequencing data, and discuss their role and the open field of research in this area.

Keywords

Graph databases

Molecular Biology

Omics

Contributions