A survey of dynamic graph neural networks

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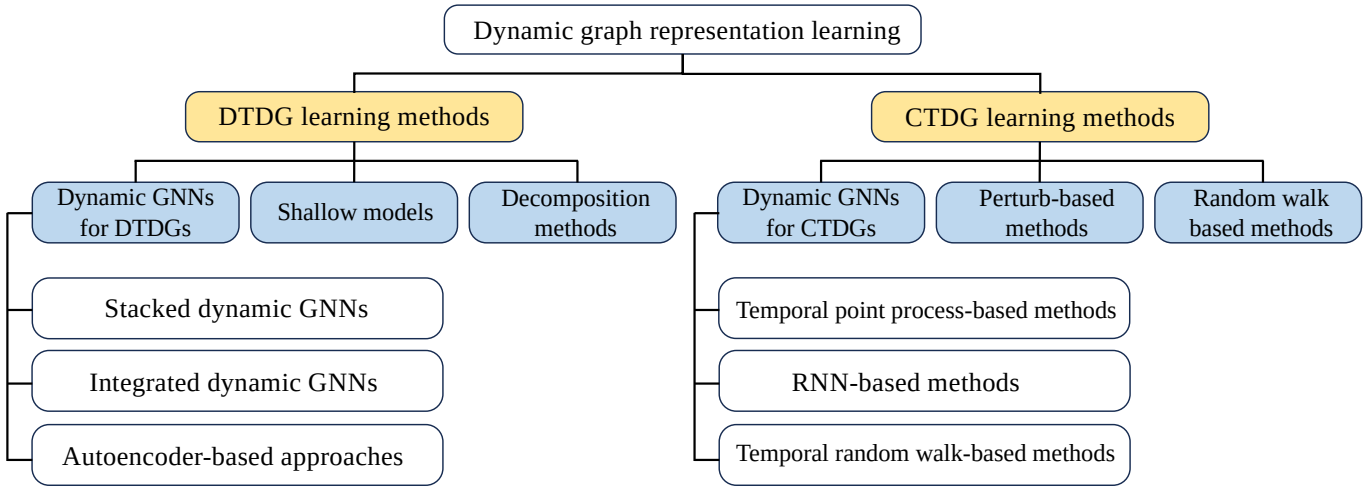
Background & Ideas

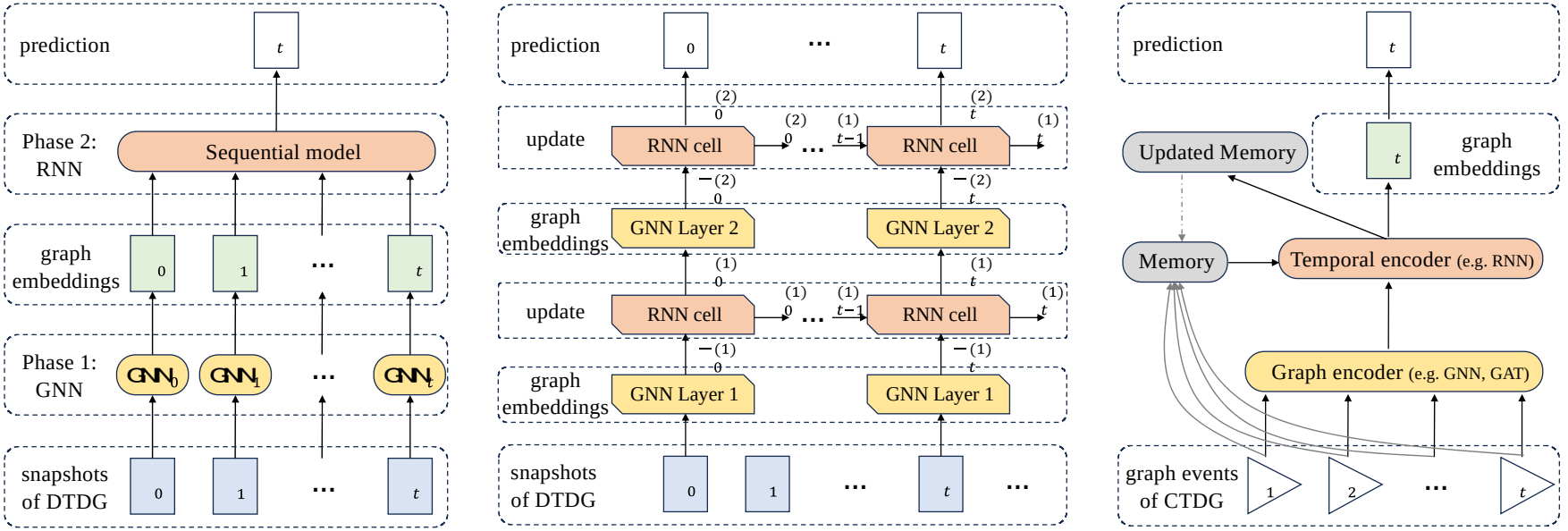
- Background of dynamic graph neural networks:
  - Dynamic Graph Neural Networks (DGNNs) have emerged as a vital area of research, offering more accurate representations of real-world networks.
  - Various approaches have been formulated for the modeling of dynamic networks, facilitating their use in practical applications.
- Ideas: This review examines the latest developments in DGNNs, offering a categorization and comparison of existing works, alongside an exploration of current research directions and future prospects.



The taxonomy of dynamic graph representation learning.

Main Contributions

- Contributions:
  - a comprehensive review of the fundamental concepts and characteristics of dynamic GNNs, construct the knowledge system of dynamic GNNs;
  - We present in detail the current mainstream dynamic GNN models and analyze in depth their advantages and disadvantages;
  - We discuss the challenges this field faces and point out possible future research directions and technology trends.



(a) Stacked dynamic GNN for DTDGs. (b) Integrated dynamic GNN for DTDGs. (c) Dynamic GNN for CTDGs.

Different model architectures for dynamic graphs.