Neo4j Graph Data Science offers 65+ ready-to-use graph algorithms. Create your data models quickly to discover actionable insights.

**Pathfinding & Search**
- Shortest Path
- Single-Source Shortest Path
- Delta Stepping
- All Pairs Shortest Path
- A* Shortest Path
- Shortest Path Dijkstra
- Yen’s k-Shortest Path
- Minimum Weight Spanning Tree
- K-Spanning Tree
- Random Walk
- Breadth & Depth First Search
- Collapse Path
- Minimum Directed Steiner Tree
- Bellman-Ford Shortest Path

**Community Detection**
- Triangle Count
- Triangle Listing
- Local Clustering Coefficient
- Weakly Connected Components
- Strongly Connected Components
- Label Propagation
- Louvain Modularity
- K-1 Coloring
- Modularity Optimization
- Speaker Listener Label Propagation
- K-means Clustering
- Leiden Algorithm
- Max KCut
- Conductance
- K-Core Decomposition

**Centrality & Importance**
- Degree Centrality
- Closeness Centrality
- Harmonic Centrality
- Betweenness Centrality & Approx.
- PageRank
- Personalized PageRank
- ArticleRank
- Eigenvector Centrality
- Hyperlink Induced Topic Search (HITS)
- Influence Maximization (Greedy, CELF)

**Graph Embeddings**
- Node2Vec
- FastRP
- FastRPExtended
- GraphSAGE
- HashGNN - Knowledge Graph Embedding

**Heuristic Link Prediction**
- Adamic Adar
- Common Neighbors
- Preferential Attachment
- Resource Allocation
- Same Community
- Total Neighbors

**Supervised Machine Learning**
- Node Classification
- Node Regression
- Link Prediction

See our complete list of graph algorithms.

Neo4j Graph Data Science is an analytics and modeling engine that uses the relationships in your data to discover fast, actionable insights and plugs into enterprise data ecosystems so you can get more data science projects into production quickly. Using pre-tuned graph algorithms, data scientists can explore billions of data points in milliseconds to identify hidden connections and generate compelling visualization that lead to better stakeholder decision making.

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