Neo4j Aura Graph Analytics

Generate Deeper Insights With Advanced Graph Algorithms

Go beyond traditional analytics and discover valuable hidden patterns in your data with Neo4j Aura Graph Analytics. Run 65+ advanced graph algorithms with data from any source or seamlessly integrate with Neo4j — no ETL required. Scale compute and storage independently with pay-as-you-go pricing, cutting total cost of ownership by up to 70%.

Optimized for large graphs, Graph Analytics delivers 2x speed over open-source alternatives, enabling you to do things like detect fraud, resolve deduplication, and identify chokepoints. Data teams can execute algorithms directly in Python, reducing context switching while improving model accuracy by 50–80%.

Graph Analytics drives smarter decisions at scale — while lowering your total cost of ownership.

Quickly Uncover Complex Patterns

Graph Analytics allows analysts to uncover deeper relationships and patterns with graph algorithms and embeddings. Centrality, community detection, and other advanced algorithms quickly deliver the insights and predictions needed to resolve complex challenges like fraud detection. Designed to handle large graphs with millions or billions of nodes and relationships, Graph Analytics leverages multi-threaded algorithms and in-memory processing to deliver unparalleled speed.

Easily Integrate Graph Algorithms Into Your Tech Stack

Graph Analytics works with any data source across any cloud platform. Natively project subqueries, run algorithms, and write back to Neo4j AuraDB or construct projections from Pandas DataFrames for maximum flexibility. You can also add advanced graph algorithms to your applications using the Graph Analytics Python client, which allows you to project graphs, execute algorithms, and use machine learning pipelines directly in Python.

Scale With Enterprise-Grade Performance

With its serverless architecture, Graph Analytics allows you to scale your compute and storage separately, meaning you only pay for compute as needed. As your team grows, so will Graph Analytics. Spin up multiple sessions to enable team members to run concurrent workloads, allowing your team to work faster and smarter.

Deepen Insights Across Your Business

Process Insights

Move beyond isolated metrics to find hidden bottlenecks, anticipate problems, optimize entire process flows, and detect process abnormalities.

Customer Insights

Generate deep insights into customer dynamics, predict purchases and trends, and enhance the overall customer experience.

Network & Security Insights

Analyze network and security dynamics, identify vulnerabilities, predict threats, detect anomalies, and map potential attack paths.

Employee Insights

Develop a deep understanding of workforce dynamics, predict talent trends, identify influencers and mentors, and optimize teams.

Transaction Insights

Trace complex money trails, identify suspicious patterns — including layered transactions and circular money flows — and uncover hidden fraud rings.

Product Insights

Go beyond simple analysis like purchase grouping and predict which products a customer will buy next based on patterns across the entire graph.

Supplier Insights

Move past simple, least-hop calculations and understand the varying weights or costs of different supply routes — such as risk, time, and distance.

Explore more use cases

The Power of Advanced Algorithms

Optimized over decades, graph algorithms can solve the most complex and financially impactful business analytics challenges — while dynamically adapting as organizational data grows and changes.

Solve Entity Resolution Challenges

Similarity and community detection algorithms can improve Customer 360 by deduplicating customers across databases and mitigating fraud by identifying clusters of illegitimate accounts.

Find Hidden Groups With Community Detection

By segmenting data in a graph structure, community detection algorithms can identify users with similar behaviors and preferences to recommend tailored products, services, and content. They can also identify obliquely connected entities committing coordinated fraud.

Detect Influential Nodes Within a Network

Centrality algorithms help prevent fragmentation or disruption of manufacturing or business processes by pinpointing chokepoints in a graph. Organizations can also use them to identify unusual patterns, such as suspicious transactions or account behaviors.

Find Optimal Paths and Uncover Connected Patterns

Shortest-path algorithms help organizations optimize logistics, reduce travel costs, and improve delivery times by identifying connected patterns between entities in complex networks and determining the most efficient delivery routes.

Driving Customer Success With Graph Analytics

Neo4j customers have used our advanced algorithms to solve a range of business-critical challenges across industries and use cases.

PNB Paribas Personal Finance built a fraud detection system that identifies fraud patterns in less than two seconds. The company has reduced fraud by 20% while ensuring that over 800,000 credit applications are processed efficiently.

DXC Technology developed a Career Navigator platform, which helps train and retain its highly skilled workforce. It has reduced attrition by 40%, increased internal hiring by 12%, and developed career profiles for over 8,000 employees.

Intuit uses graph algorithms to safeguard its network infrastructure and protect the data of 100 million customers. It can now attribute 500,000+ endpoints to host names in milliseconds, enabling rapid responses to zero-day vulnerabilities.

Native Integrations Across Clouds

Neo4j Aura Graph Analytics capabilities are available on every major cloud platform, including Amazon Web Services, Google Cloud, and Microsoft.

aws Google Cloud Microsoft Azure

Trusted by more than 1,700 global organizations, including 75 of the Fortune 100

Adobe AstraZeneca CATERPILLAR cisco

COMCAST intel NASA NOVARTIS