



Amazon Neptune Analytics Algorithm Support

Neptune Analytics natively supports over 25 optimized graph algorithms and variants in the 5 most popular categories that help customers extract insights from their graphs.

Pathfinding Find the existence, quality, or availability of a path between nodes <ul style="list-style-type: none">Breadth-First SearchSingle-Source Shortest PathTop-K Single Source Shortest Path Common Uses: <ul style="list-style-type: none">Logistics OptimizationSocial Network RecommendationsRoute Optimization	Centrality Determines the absolute or relative importance of a node in the graph <ul style="list-style-type: none">DegreePageRankCloseness Centrality Common Uses: <ul style="list-style-type: none">Fraud Ring/Collusion DetectionSocial Network influencer identificationSupply Chain Risk analysis	Similarity Compare the similarities between different graph structures <ul style="list-style-type: none">Common NeighborsTotal NeighborsJaccard SimilarityOverlap Similarity Common Uses: <ul style="list-style-type: none">Biological structural analysisSocial Network cluster comparisonLink Prediction
Clustering & Community Detection Identify meaningful groups or clusters within graph structures <ul style="list-style-type: none">Weakly Connected Components (WCC)Strongly Connected Components (SCC)Label Propagation Common Uses: <ul style="list-style-type: none">Social network clustersFraud Ring IdentificationHouseholdingBiological Interaction	Vector Similarity Search Identify approximate nearest neighbor (ANN) nodes by comparing vector embeddings using the Hierarchical Navigable Small World (HNSW) algorithm <ul style="list-style-type: none">DistanceTop-K Common Uses: <ul style="list-style-type: none">RAG applicationsKnowledge Graph backed Chat botsApproximate Nearest Neighbors	... and more Neptune Analytics is an in-memory optimized graph database for analytics optimized for analytics, low-latency query, and vector similarity <ul style="list-style-type: none">Graph as a serviceFully managed environmentPay-as-you-goAlgorithms integration with openCypher Query Language

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