Graph DB

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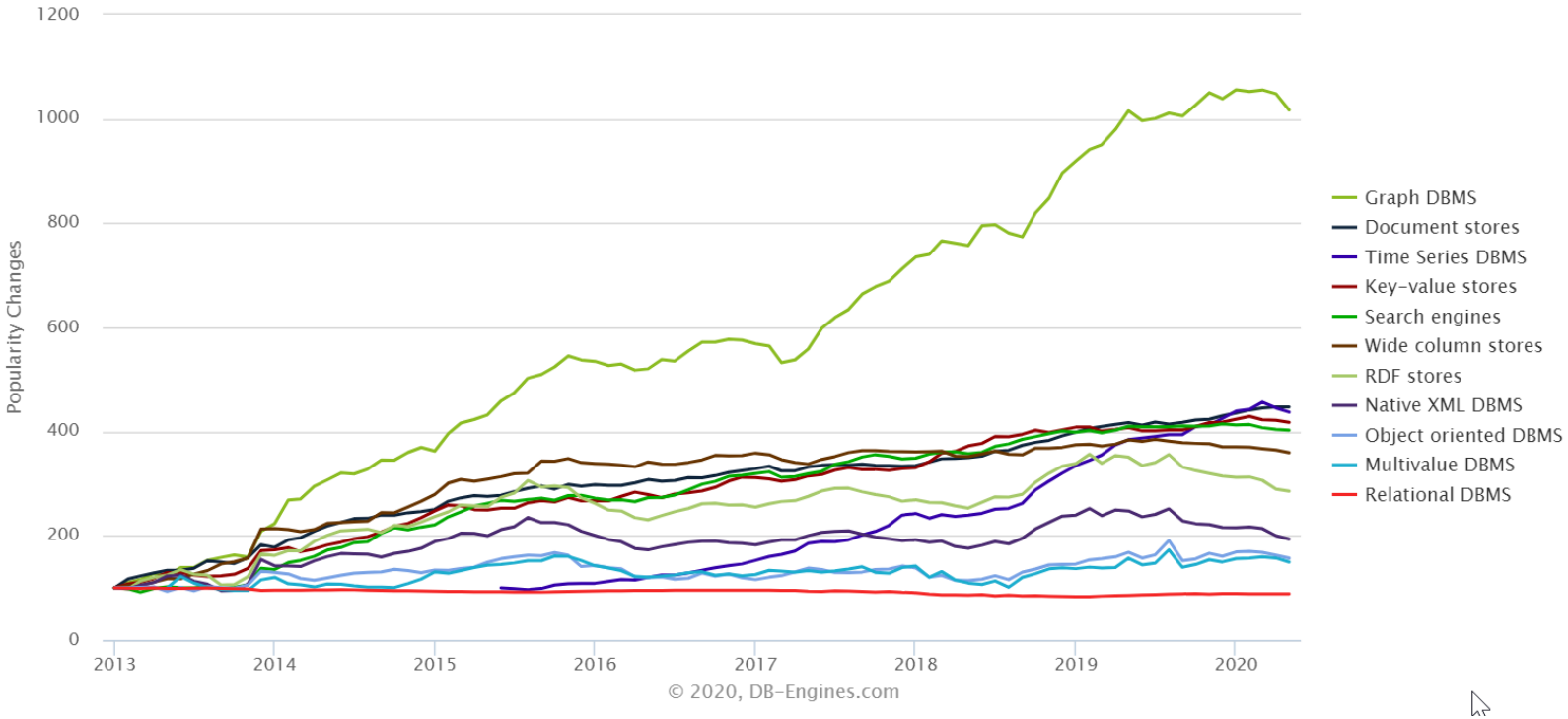
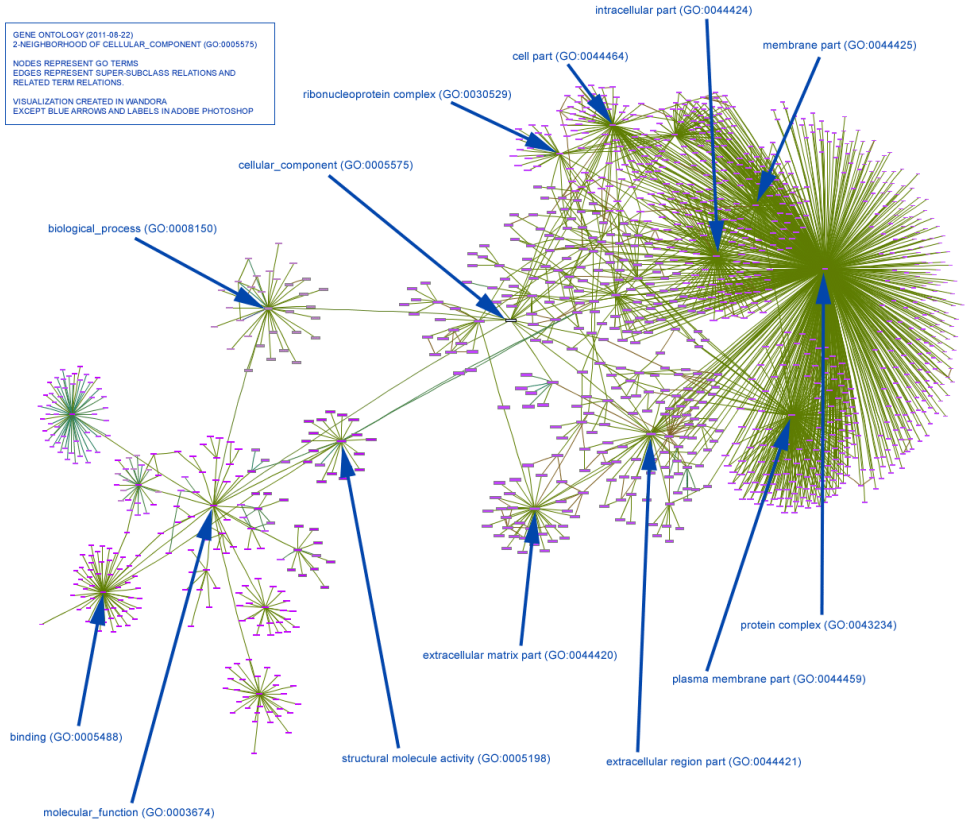
We live in a connected world! . **– Neo4j.**
(Neo4j)-[:LOVES]-(Developers)

Change in Popularity



Source: https://db-engines.com/en/ranking_categories

Gene Ontology Model

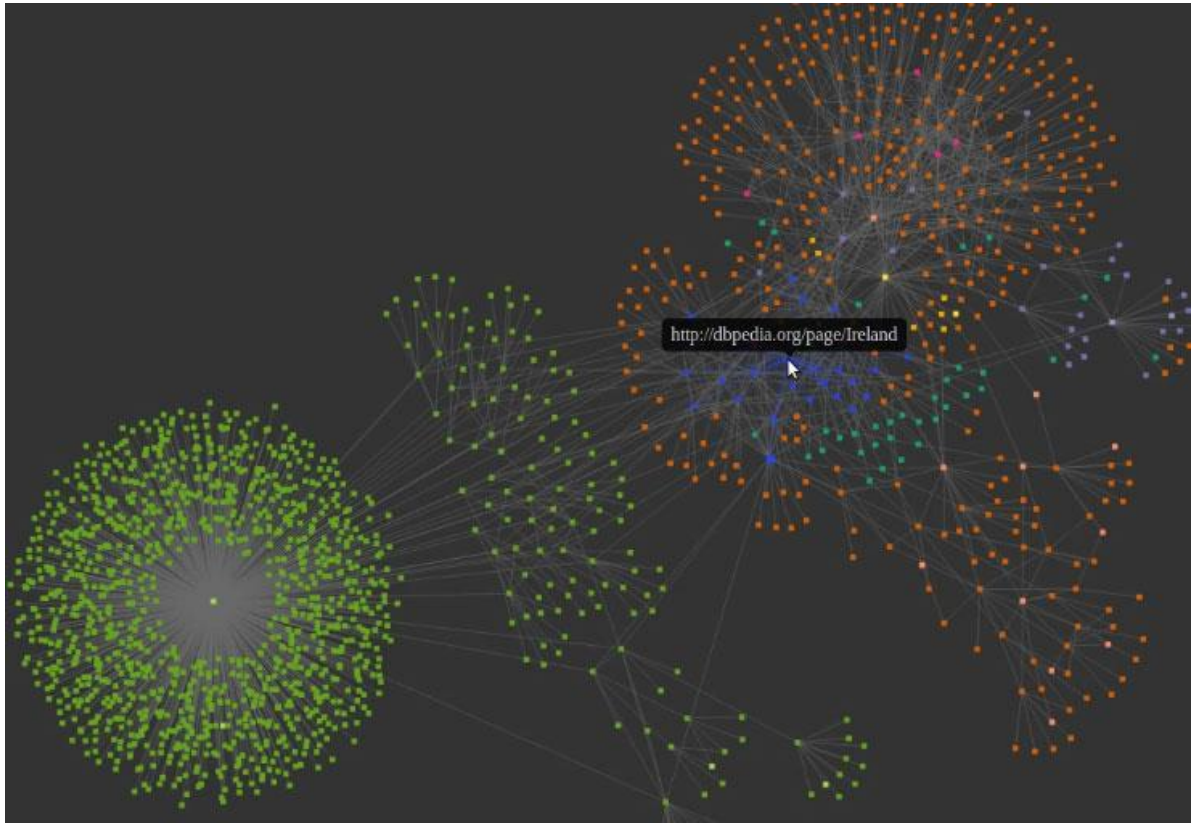


Number of topics: 177301

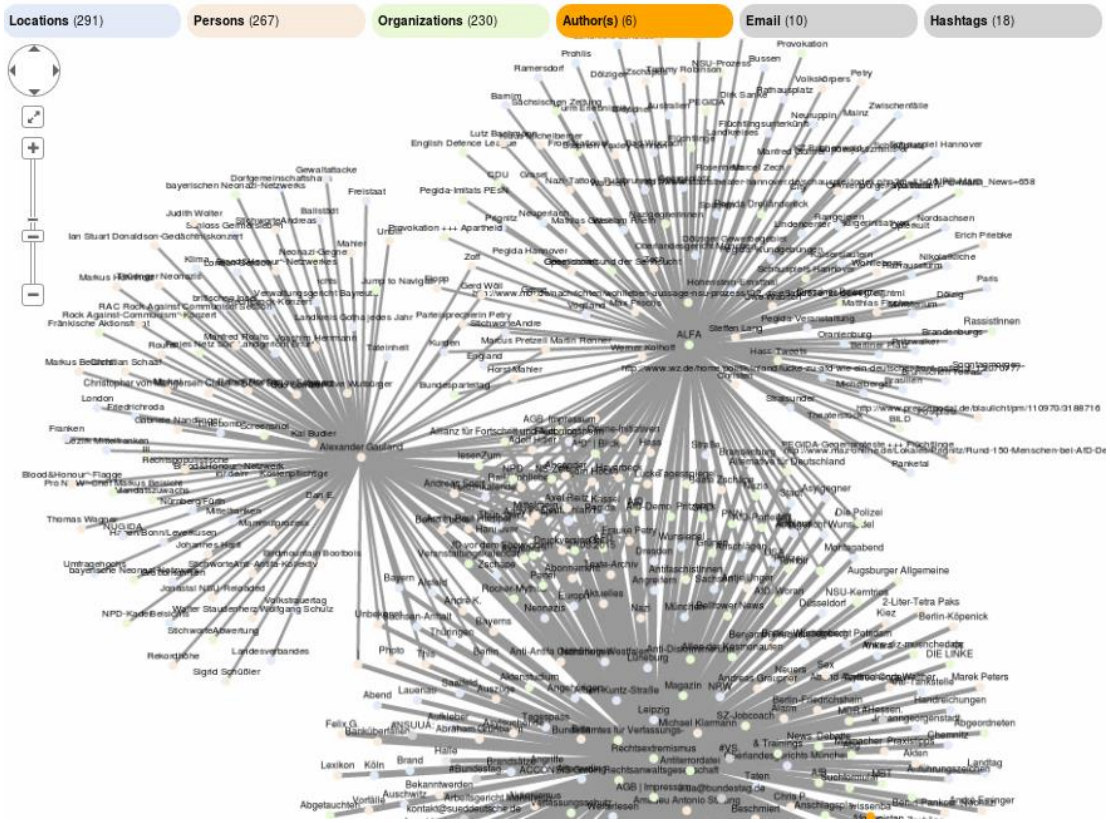
Number of associations: 280198

Source: http://wandora.org/wiki/Topic_map_conversion_of_Gene_Ontology

Knowledge Graphs



Source: https://www.ibm.com/blogs/research/2016/01/from-knowledge-graphs-to-cognitive-computing/



Source: https://www.opensemanticsearch.org/doc/search/graph

Graph Database

Relationships between data is equally as important as the data itself.

Neo4j

- A leading graph database, with native graph storage and processing.
- Open Source
- NoSQL
- ACID compliant

Neo4j Sandbox

https://sandbox.neo4j.com/

Neo4j Desktop

https://neo4j.com/download

Data Model

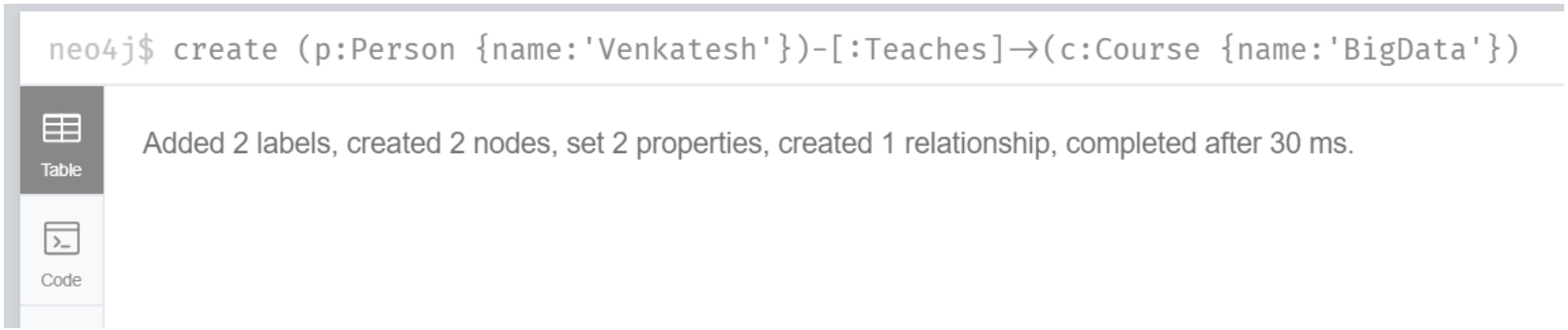
- create (p:Person {name:'Venkatesh'})-[:Teaches]->(c:Course {name:'BigData'})

Query Language

- Cypher Query Language
  - Similar to SQL
  - Optimized for graphs
  - Used by Neo4j, SAP HANA Graph, Redis Graph, etc.

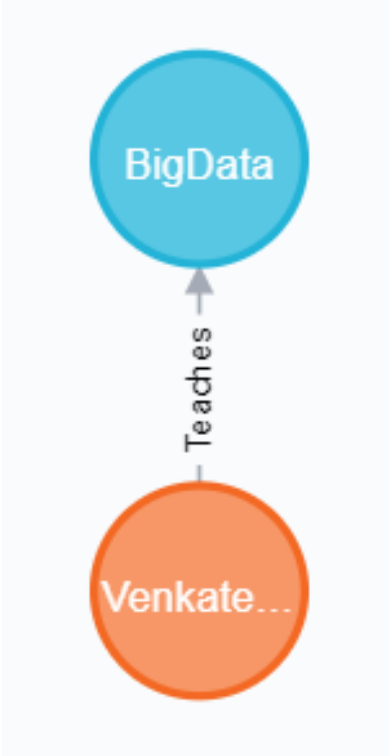
CQL

- create (p:Person {name:'Venkatesh'})-[:Teaches]->(c:Course {name:'BigData’})
- Don’t forget the single quotes.



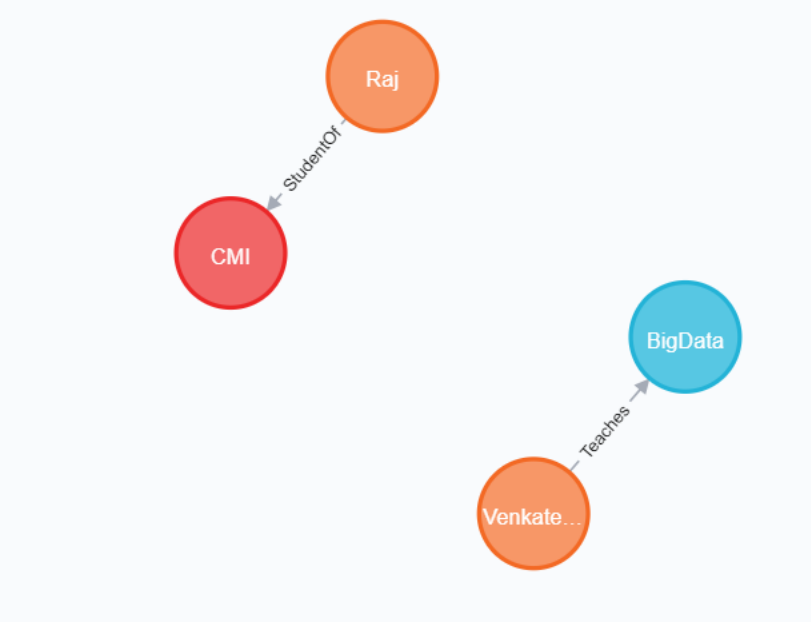
CQL

- Match (n) return n

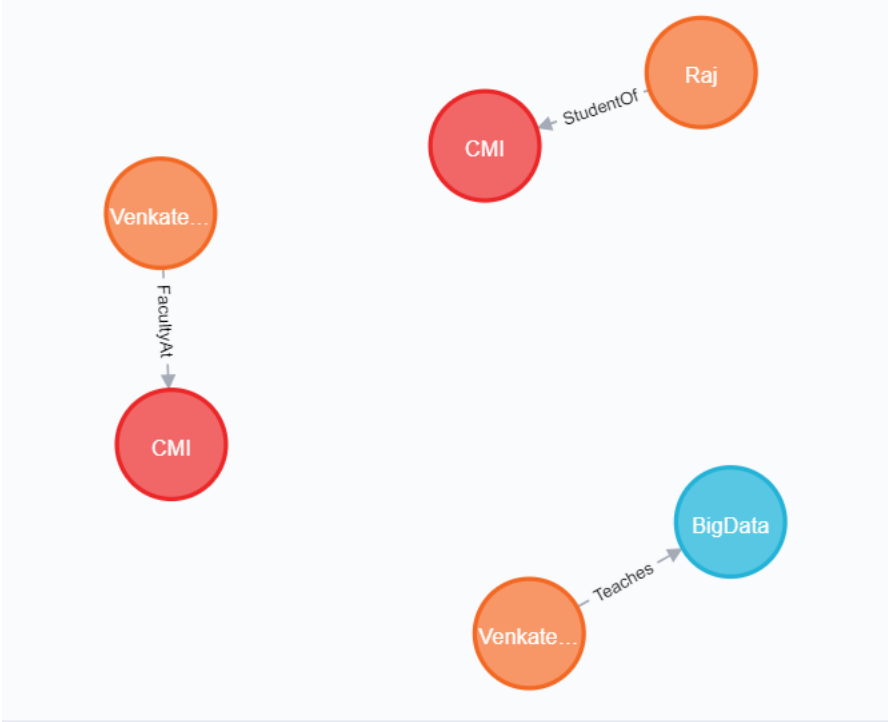


- match(p:Person {name:'Venkatesh'}) set p.surname='Vinayakarao' return p

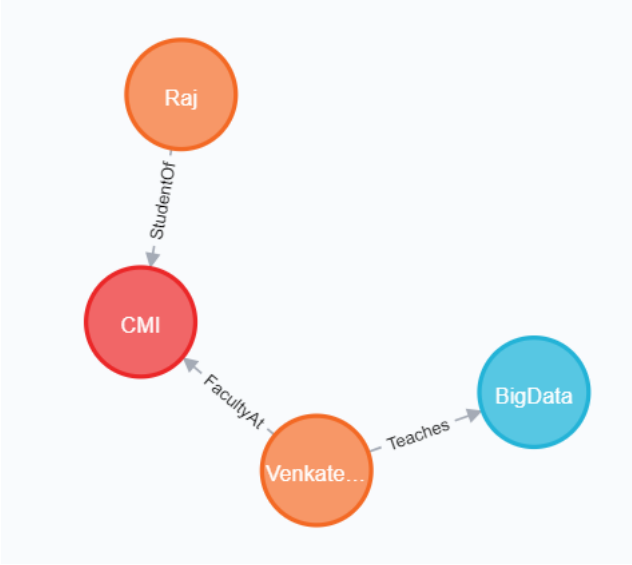
- Create (p:Person {name:’Raj’})-[:StudentOf]->(o:Org {name:’CMI’}
- Match (n) return n



- create (p:Person {name:'Venkatesh'})-[:FacultyAt]->(o:Org {name:'CMI’})
- Match (n) return n

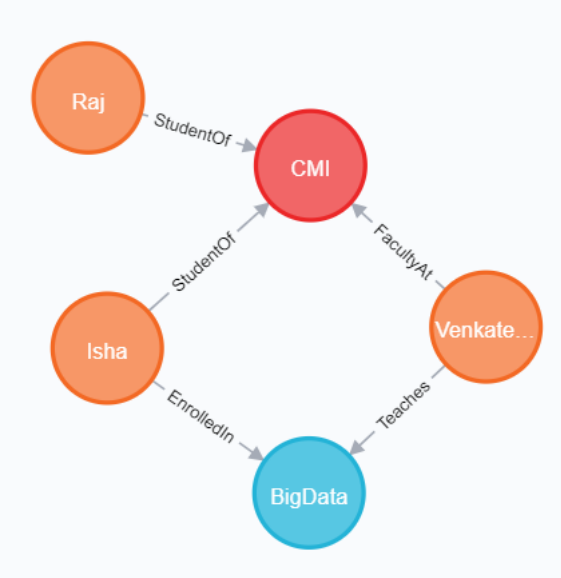


- MATCH (p:Person) where ID(p)=4
- DELETE p
- MATCH (o:Org) where ID(o)=5
- DELETE o



- MATCH (a:Person),(b:Org)
- WHERE a.name = 'Venkatesh' AND b.name = 'CMI'
- CREATE (a)-[:FacultyAt]->(b)

- MATCH (a:Person),(b:Course)
- WHERE a.name = 'Isha' and b.na
- CREATE (a)-[:StudentOf]->(b)



- MATCH (a:Person)-[o:StudentOf]
  ID(o)=4
- DELETE o

- MATCH (a:Person),(b:Course)
- WHERE a.name = 'Isha' and b.name = 'BigData'
- CREATE (a)-[:EnrolledIn]->(b)

Thank You