Best Technology Talent For Companies Around The World



ncube

# Jana

## AI & Knowledge Graph Engineer

## Summary

Semantic Engineer with 8+ years of experience in semantic technologies, ontology engineering, and graph-based data systems. Strong expertise in RDF, SPARQL, OWL, SHACL, and ontology-driven data modeling, combined with hands-on experience in Python, NoSQL databases, and data validation pipelines. Proven ability to design interoperable semantic models, ensure data quality, and bridge research-grade semantics with production-ready data engineering in enterprise environments.

TECHNICAL SKILLS:

- Semantic Technologies: RDF, RDFS, OWL, SHACL, SPARQL, RML, Cypher, OntoUML
- Ontology & Data Modeling: Conceptual modeling, enterprise architecture, ER, UML, semantic interoperability
- Programming & Scripting: Python, Java, SQL, JavaScript
- Databases: Graph databases, RDF triple stores, Neo4j, MySQL
- Data Engineering: Data validation, schema design, semantic data pipelines, ETL/ELT concepts
- Standards & Models: Allotrope Foundation standards (ASM), standards-based data models, Semic, FAIR
- AI & Knowledge Retrieval: RAG, GraphRAG, embeddings, AI agents, agentic workflows, MCP, semantic retrieval, provenance (working understanding)
- DevOps & Tooling: Git, Jenkins, CI/CD, Docker, Jira, Confluence
- Cloud & Infrastructure: AWS (foundational), CloudFormation, Terraform (foundational)

# Professional Career

## Semantic Data Engineer

**May 2026 – Present | Czech Republic**

**Project Info:**

Laboratory instrument data integration and semantic data standardization using Allotrope Simple Models (ASM).

**Responsibilities:**

- Developed and extended Allotrope Simple Models (ASM) using JSON Schema to support standardized laboratory instrument data integration
- Built and maintained ASM schema validation logic using Python, ensuring data quality and compliance with Allotrope standards
- Supported semantic data transformation from ASM to RDF and collaborated with the SD Data Lake team to troubleshoot ingestion into graph and document-oriented NoSQL databases
- Participated in Allotrope Foundation working groups, contributing to the evolution of ASM schemas and semantic data models
- Worked with FAIR data principles, semantic web technologies (RDF, SPARQL), and standards-based data modeling to enable interoperable laboratory data
- Contributed to CI/CD workflows using Git, Docker, and DevOps practices to support schema releases and validation updates
- Collaborated with cross-functional teams, including data engineers, analytical scientists, and software engineers, to deliver scalable semantic data solutions
- Worked with AWS serverless technologies, including Lambda, Glue, and Step Functions, to support automated semantic data processing pipelines

**Software and technologies:**

JSON Schema, Python, Allotrope ASM, RDF, SPARQL, FAIR, Git, Docker, AWS Lambda, AWS Glue, AWS Step Functions

## Semantic Data Engineer

**January 2023 – April 2026 | Luxembourg**

**Project Info:**

Ontology engineering, semantic data modeling and integration for standards-based graph data systems

**Responsibilities:**

- Designed, developed, and maintained ontologies and semantic data models using OWL, SHACL, RDF, and Neo4j
- Built and evolved standards-based data models aligned with external specifications and organizational requirements, following structured release and change processes
- Developed and maintained schema and constraint validation logic using Python, SPARQL, and shape-based validation approaches
- Supported model evolution and change management in CI/CD environments, ensuring backward compatibility and controlled rollout of updates
- Contributed to semantic data integration and transformation pipelines from structured formats to RDF for graph-based storage and analytics
- Collaborated in Agile teams and acted as Product Owner, defining and prioritizing backlog items.
- Used Git, Jenkins and Docker to support version control, CI/CD workflows

**Software and technologies:**

OWL, SHACL, RDF, Neo4j, Python, SPARQL, Git, Jenkins, Docker, Agile

## Researcher / Semantic Data Engineer

**2018 – 2026 | Prague**

**Project Info:**

Academic research and teaching in ontology engineering, semantic data management and query optimization.

**Responsibilities:**

- Conducted research in ontology engineering, semantic data management, and query optimization.
- Designed and analyzed ontology-based information systems and graph data models
- Developed Python-based tools and scripts for semantic data processing, validation, and experimentation
- Taught courses in Enterprise Architecture (Java), Database Systems (SQL), and Semantic Web technologies
- Published peer-reviewed research on foundational ontologies, semantic modeling, and query optimization

**Software and technologies:**

Python, Java, SQL, Semantic Web, ontology engineering, graph data modeling

# Education

PhD in Semantic Web — Czech Technical University, Faculty of Electrical Engineering / Computer Science Department

Master’s Degree in Web Science

Master’s and Bachelor’s Degrees in Computer Science

# Foreign Languages Skills

**English:** Upper-intermediate

**Arabic:** Native