NOVARTIS

Associate Director, Semantic & Knowledge Engineering (2 Openings)

Job ID
REQ-10086338
Aug 23, 2026
LOC_US

About the Role

Key Responsibilities:

Enterprise semantic modeling and knowledge engineering

• Design, develop, and maintain enterprise ontologies, taxonomies, business vocabularies, and semantic models that establish consistent meaning across products, data, and AI capabilities.

• Build and enhance knowledge graphs, metadata services, and semantic APIs that support AI, analytics, enterprise applications, and commercial decision enablement.

Semantic capabilities for AI and product workflows

• Collaborate with Product, Applied AI, Analytics Engineering, and Platform Engineering teams to embed semantic capabilities into products, workflows, platforms, and reusable solution patterns.

• Support semantic foundations for RAG, agentic AI, contextual search, reasoning engines, enterprise search, analytics, and interoperability initiatives.

Metadata governance and knowledge lifecycle management

• Implement metadata governance, semantic quality controls, stewardship practices, and lifecycle management for enterprise knowledge assets.

• Promote quality, consistency, reuse, transparency, and governed evolution of semantic assets across the SPT ecosystem.

Technology evaluation and architecture evolution

• Evaluate emerging semantic technologies, standards, graph capabilities, and knowledge engineering approaches to inform the evolution of the enterprise knowledge architecture.

• Contribute reusable engineering patterns and technical guidance that reduce duplication and improve scalability across semantic and knowledge engineering work.

Technical mentorship and cross-functional collaboration

• Mentor semantic and knowledge engineers while promoting reusable engineering patterns, technical excellence, disciplined documentation, and pragmatic implementation.

• Communicate technical trade-offs, risks, dependencies, and recommendations clearly to product, engineering, analytics, AI, and business stakeholders.

Essential Requirements:

- Education: Bachelor's degree in Computer Science, Information Science, Artificial Intelligence, Data Science, Bioinformatics, or a related discipline; advanced degree preferred.
- 6+ years of progressive experience in semantic technologies, knowledge engineering, metadata management,

data/information architecture, data product engineering, or AI-enabling data platforms.

- Hands-on experience designing and maintaining ontologies, taxonomies, controlled vocabularies, business glossaries, semantic models, RDF/OWL, SKOS, SPARQL, graph databases, knowledge graphs, metadata catalogs, data lineage, and semantic APIs/services.
- Experience building semantic assets that enable AI grounding, RAG/GraphRAG, enterprise search, contextual search, reasoning engines, analytics consistency, interoperability, and reusable product capabilities.
- Working knowledge of data governance, stewardship models, provenance, quality controls, access/security controls, lifecycle management, privacy, and compliance expectations for enterprise knowledge assets.
- Ability to translate complex business/domain concepts into reusable semantic models and partner effectively with Product, Applied AI, Analytics Engineering, Platform Engineering, Architecture, and business domain experts.
- Strong engineering delivery discipline, including documentation, versioning, validation/testing of semantic assets, standards adherence, backlog execution, reusable patterns, and pragmatic implementation in agile/product teams.
- Strong analytical, communication, stakeholder management, and collaboration skills, with the ability to explain semantic design choices, technical trade-offs, risks, and dependencies to technical and non-technical stakeholders.

Desirable Requirements:

- Experience applying semantic technologies in pharmaceutical, healthcare, life sciences, commercial, clinical, medical, real-world data, or another regulated data environment.
- Experience supporting generative AI, agentic AI, LLM-powered products, RAG/GraphRAG, vector databases, graph-enhanced retrieval, knowledge graph embeddings, enterprise search, or AI-ready semantic layers.
- Familiarity with FAIR data principles, master/reference data modernization, metadata platform roadmaps, ontology governance forums, stewardship operating models, and enterprise knowledge architecture practices.
- Experience with cloud-based data and AI ecosystems, graph/vector tooling, semantic layer technologies, API-based semantic services, and integration with enterprise search or analytics platforms.
- Experience mentoring junior semantic/knowledge engineers, shaping reusable engineering patterns, and contributing to technical standards or communities of practice.
- Advanced degree or relevant certification in Computer Science, Information Science, Data Science, Artificial Intelligence, Bioinformatics, Knowledge Engineering, Ontology Engineering, or a related discipline.

Novartis Compensation Summary:

The salary for this position is expected to range between $176,400 and $327,600 per year.

The final salary offered is determined based on factors like, but not limited to, relevant skills and experience, and upon joining Novartis will be reviewed periodically. Novartis may change the published salary range based on company and market factors.

Your compensation will include a performance-based cash incentive and, depending on the level of the role, eligibility to be considered for annual equity awards.

US-based eligible employees will receive a comprehensive benefits package that includes health,life and disability benefits, a 401(k) with company contribution and match, and a variety of other benefits. In addition, employees are eligible for a generous time off package including vacation, personal days, holidays and other leaves.

Role Requirements

Division
DIV_IU
Business Unit
General Management
Location
LOC_US
Site
East Hanover
Company / Legal Entity
U014 (FCRS = US014) Novartis Pharmaceuticals Corporation
Alternative Location 1
LOC_US
Functional Area
FCT_DD
Job Type
Full time
Employment Type
Regular
Shift Work
No
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