

Senior Ontology Specialist – Mortgage Domain Job Description Template

Job Title: Senior Ontology Specialist – Mortgage Domain

Location: [Specify Location or Remote]

Job Type: [Full-time/Part-time/Contract]

About the Role

We are seeking an experienced and detail-oriented Senior Ontology Specialist to lead the modeling, integration, and management of ontologies in the mortgage domain. In this pivotal role, you will define and implement semantic models that underpin scalable, interoperable systems for mortgage processes, compliance, and analytics. If you have deep expertise in knowledge representation, data modeling, and a passion for applying semantics to real-world business challenges, this is your chance to shape industry-leading mortgage data solutions and guide a skilled technical team.

Responsibilities

- Lead the development, refinement, and maintenance of ontologies specific to mortgage products, services, and business processes.
- Collaborate with business stakeholders, domain experts, and technical teams to gather requirements, identify key concepts, and define semantic relationships within the mortgage ecosystem.
- Translate complex domain knowledge into structured, machine-interpretable ontological models ensuring reusability and extensibility.
- Integrate ontologies with existing data architectures and platforms to enable standardized data exchange, interoperability, and knowledge inference.
- Create detailed technical documentation, including ontology diagrams, definitions, vocabularies, and guidelines for usage.
- Support data architects and engineers in mapping enterprise data sources to ontological models.
- Oversee the application of semantic reasoning, query development (e.g., SPARQL), and ontology-driven data integration.
- Conduct ontology validation, consistency checks, and quality assurance activities.

- Mentor junior ontology specialists and team members in modeling techniques, best practices, and domain knowledge.
- Stay current with advancements in semantic technologies, knowledge graph management, and mortgage/financial industry standards.

Required Skills & Experience

- Bachelor's or Master's degree in Computer Science, Information Science, Semantic Technologies, or a related field (or equivalent experience).
- Substantial experience (typically 5+ years) in ontology engineering, knowledge modeling, or related semantic data roles.
- Proven expertise in modeling ontologies using OWL, RDF, SKOS, and related semantic web standards.
- Deep understanding of the mortgage domain, including products, processes, compliance, and industry data standards.
- Familiarity with ontology management tools (e.g., Protégé, TopBraid Composer, Stardog).
- Experience with SPARQL and semantic reasoning tools for query and inference.
- Proficiency in integrating ontologies within enterprise data platforms, APIs, or knowledge graphs.
- Strong analytical and problem-solving skills with meticulous attention to detail.
- Excellent written and verbal communication skills to articulate complex semantic concepts to both technical and business audiences.

Nice-to-Have Skills

- Experience working with knowledge graphs, graph databases (e.g., Neo4j, AllegroGraph), and linked data platforms.
- Familiarity with data governance, metadata management, and master data management practices.
- Knowledge of other financial services domains (e.g., banking, insurance, securities) for broader context.
- Experience with AI/ML applications that leverage semantic technologies.

- Industry certifications related to semantic technologies, knowledge engineering, or the mortgage/financial sector.
- Track record of contributing to open-source ontology projects or standards organizations (e.g., MISMO, FIBO).

Why Join Us?

- **Innovative Projects:** Shape the development of cutting-edge mortgage knowledge systems with industry impact.
- **Collaborative Environment:** Work with a diverse, expert team at the intersection of technology and finance.
- **Career Growth:** Access professional mentoring, certifications, and opportunities to take on leadership responsibilities.
- **Flexible Work Options:** Enjoy a hybrid or remote work environment for optimal work-life balance.
- **Inclusive Workplace:** Be valued for your unique skills, insights, and contributions in an equitable setting.

Apply Now

Are you ready to make a difference in the future of mortgage data and knowledge? Join [Your Company Name] as a Senior Ontology Specialist and help design semantic solutions that drive smarter business outcomes. Apply today!