

Allotrope Foundation Semantic Engineer

Role Description

The Allotrope Foundation Semantic Engineer is a two year contract position with potential for extensions, reporting into the executive leadership of the Foundation and working under the advisement of the Allotrope Product and Technical Directors. The primary role of the Semantic Engineer is to develop the semantic content (ontologies and data models) and associated tooling required to deliver on the current Allotrope Foundation roadmap of priority domains to the pharmaceutical industry. In this role, the Semantic Engineer will work closely with Allotrope Working Groups and project teams executing Allotrope-endorsed projects and will operate within the established Allotrope governance structure to ensure that the Framework components are delivered to the highest levels of quality, robustness, and conformance to meet the Allotrope standard.

The Semantic Engineer is a key technical resource to Allotrope Members, Allotrope Partner Network (APN), and the emerging global community of semantic developers using Framework to embed data standards into new, innovative software applications to benefit the scientific community. The Semantic Engineer will work closely with other technical and scientific domain subject matter experts, so previous pharmaceutical experience is a definite plus and teamwork and excellent communications skills are a must in a very diverse and fast-paced environment.

The vision of the Allotrope Foundation is to help reshape the informatics landscape feeding data sciences in R&D, therefore candidates must have a passion for actively driving disruptive innovation through its successful implementation. If this challenge sounds like fun, this role may be the perfect fit for you. Contact us today and let's explore the possibilities together!

What You'll Do

- ✓ Apply existing Allotrope standards for ontologies and data models, and inform extensions and modifications, as required
- ✓ Develop semantic content for priority domains on the Allotrope roadmap with teams of scientific and technical experts
- ✓ Partner with the Allotrope Principal Semantic Engineer to provide governance for community developed submissions
- ✓ Represent Allotrope Foundation in relevant external venues regarding semantic technology and associated standards
- ✓ Provide both planned and *ad hoc* training to the growing Allotrope community of semantic developers
- ✓ Assist Technical Director to develop and deliver DevOps infrastructure projects, as required

Requirements

- ✓ This is a hands-on role, please only strong technical candidates need apply
- ✓ Prior experience working with upper-level ontologies, e.g., Basic Formal Ontology (BFO), and building data models for the life sciences or a related domain
- ✓ Strong experience with SPARQL, SHACL, RDF, OWL, graph algorithms and databases, other Semantic Web technologies
- ✓ Expert programming skills (e.g., Java, .NET, or Python)
- ✓ Proficiency with software engineering best practices (Agile, unit testing, DevOps, CI/CD pipelines)
- ✓ Working knowledge of ALCOA+CCEA and FAIR data principles
- ✓ Bachelor's or higher degree in computer science, physical sciences, mathematics, philosophy or a related discipline

Why Allotrope Foundation?

Founded in 2012, [Allotrope Foundation](#) is an international consortium of pharmaceutical, biopharmaceutical, and other scientific research-intensive industries that has developed an advanced data architecture to transform the acquisition, exchange, and management of laboratory data throughout its lifecycle. Following an initial phase of iterative research, technology evaluation and design, a holistic architecture was developed that includes a universal file format for data from analytical and other scientific instruments, accompanying APIs and semantic capabilities, collectively referred to as the Allotrope Framework. The first two products were released in 2017 (format specification + class libraries; initial release of the ontology) and the third will be released in 2018 (data models). Allotrope was recognized in 2017 by Bio-IT World with a Best Practice Award in Knowledge Management.

Allotrope Foundation is looking for the right individual to help us transition from a research & development oriented organization and model to one that can fully support the needs of third parties (instrument and software vendors and service providers) who are incorporating the Framework into their product and services. While not a software company, the Foundation engaged the services of OSTHUS (a solutions provider in life sciences informatics profession) for the Framework architecture and software development. Key technical roles have subsequently been staffed within Allotrope, and development is increasingly executed in the community at large. The community of instrument, software, and service providers is represented in the ecosystem through the Allotrope Partner Network (APN). Drawing on requirements and priorities of the both Foundation Member companies and the APN the Foundation manages a roadmap for the Allotrope product lifecycle, and backlog, ensure timely delivery, provide technical support, etc. The opportunity to work within this ecosystem will provide the opportunity for interaction and collaboration across a wide representation of industry leaders in the pharmaceutical/biopharmaceutical sector and the vendor community on which it relies. While defined as a Semantic Engineer role, in fact the environment bears resemblance to a "start-up" and as such the successful candidate will be called on to play other roles at times, including project and delivery manager. The Allotrope community is broad, diverse and constantly growing with a mission to: Revolutionize the way we acquire, share and gain insights from scientific data, through a community and the framework for standardization and linked data. The job will be challenging, require constant learning and adapting, but ultimately highly rewarding when success does revolutionize industries reliant on laboratory and manufacturing facility data.

If you're interested in the Semantic Engineer Role please contact the Allotrope Foundation at more.info@allotrope.org

