



Senior Data Engineer – (Digital Library Services)

The Senior Data Engineer is responsible for the design, engineering, and implementation of access and transformation models of library-managed data, manifested in service APIs and applications. Reporting to the Manager of Infrastructure Engineering, the senior data engineer is a technical leader in collaborative development of innovative solutions for data models, pipelines, and integrations, providing technical and domain expertise and leadership in facilitating the adoption and integration of these technologies into the Libraries' platform of services.

Through data engineering, data architecture, planning and project design, mentoring, and experimental technology design, the Data Engineer plays a key role in advancing the Libraries' vision of building a platform for the creation, discovery, use, dissemination, and preservation of knowledge that is fully open and equitably accessible. This role can be filled by a fully remote employee.

Responsibilities include:

Data engineering and architecture (60%)

- Work with EngX, Software Architect, and stakeholders to design underlying data models, pipelines, and integrations for sustainable, open, interoperable, scalable, extensible services.
- In collaboration with developers in the EngX group, the UX & Web Services team, the PMO, and occasionally contract or external designers and developers, build applications to support library services as part of the directorate's standard managed project process.
- Engineer and deploy code for data pipelines and integrations.
- Share expertise with other members of the department, library staff in general, or larger audiences such as in conferences, workshops, etc.
- Participates in design/code reviews to ensure effective and efficient implementation.
- Act as a resource/expert in technology solutions, providing guidance and recommending system adoption/consideration.

Planning / Project Design (20%)

- Lead planning, design, technical review, and/or technical support of department work including, but not limited to: data modeling, code review, design input, diagnosis and correction of defects (bugs) discovered in production applications.
- Works closely with internal stakeholders and customers to assure all systems are in line with long-term strategy.
- Creates and shares development estimates and operational requirements to enable accurate planning with realistic timelines.
- Act as a technical lead for projects managed by the PMO.

Experimental technology design (20%)

- Identify and develop relationships for technology development and transfer across and beyond the MIT community.
- Evaluate, work with, and ascertain applicability and technical feasibility of work that originates outside the library into library use.
- Explain and advocate for technical solutions developed outside the library community.
- Coordinate with PMO, EngX, and external collaborators to allocate resources for experimental

development.

- Coordinate with UX/user engagement teams to establish methods for engaging technical users with library systems.

Required Qualifications Include:

- Bachelor's degree in computer science, information technology, or related field.
- Minimum of 7 years professional experience in a role where application development and/or data engineering were a primary responsibility.
- Demonstrated experience with the following:
 - MVC application frameworks such as RoR/Sinatra, Django/Flask, Spring MVC/Play, etc.
 - Distributed version control (Git)
 - RDBMs/SQL
 - Java/Python/Ruby/JavaScript - expertise/fluency in several
 - API design principles
- Demonstrated experience with data modelling and manipulation, in particular library metadata schema and methodologies such as PREMIS, PAIS, MARC, MODS, etc.
- Demonstrated success building and maintaining relationships with a variety of stakeholders across organizational and institutional boundaries.
- Familiarity with software development lifecycle methodologies, DevOps, or Agile practices.
- A deep value for diversity, and a desire to be inclusive in your work, your collaborations, and your collegiality.
- Version control with Git, preferably with GitHub.
- An interest in making the world a more equitable place through technology.

We expect candidates to be stronger in some qualifications listed above than others; we are committed to helping our future colleague expand their skills, as well as learning from their areas of strength

Preferred:

- Experience leading and coordinating complex projects.
- Knowledge of Semantic web technologies and systems.
- Experience with creating and using Docker containers.
- Experience with semantic HTML, CSS3, and accessibility and content management systems.
- Interest in or experience with APIs or platform technologies; AI / machine learning, and computational challenges. Experience with object-oriented design, 12 factor methods, and test automation.
- Passion for libraries or information-focused technical challenges.
- Experience writing Unit and Integration tests.

SALARY AND BENEFITS: The target hiring range for this position is \$118,000-\$130,000

Actual salary will depend on qualifications and experience. MIT offers excellent [benefits](#) including a choice of health and retirement plans, a dental plan, tuition assistance, and fully subsidized MBTA passes for local bus and subway service. Flexible work arrangements, including flex-time and telecommuting, are considered for positions that meet established criteria. The MIT Libraries is a collegial and supportive working environment and fosters professional growth of staff with management training and travel funding for professional meetings.

APPLICATION PROCESS: Apply online at: <https://hr.mit.edu/careers> applications must include cover letter and resume. Priority will be given to applications received by April 21, 2023; position open until filled.

ABOUT THE MIT LIBRARIES:

The MIT Libraries support teaching, learning, and research across the Institute, with millions of resources, deep expertise, and five campus locations where our community consumes and creates

knowledge. Our organization is on an exciting journey of transformation, pursuing a digital-first model for research libraries and prioritizing an open scholarship agenda. We aim to exercise bold leadership in defining a model for research libraries in the future, with innovative spaces like the newly renovated Hayden Library and a focus on supporting data-intensive and computational research and learning.

We strive to do great things, powering the MIT community to solve complex problems in the service of humankind, and each member of our 146-person staff has a role to play in pursuing that vision. We're constantly adapting to the rhythms of a changing world, and we welcome candidates who can help us do that in thoughtful and strategic ways that center our mission and values.

MIT Libraries is an environment that welcomes any body, any mind — including all genders — and particularly encourages applications from underrepresented minorities, women, disabled applicants, and veterans. Professionals who enthusiastically embrace the empathy, courage, self-reflection, and respect of a multicultural, diverse, and inclusive workplace and who strive to incorporate those values in their work and interactions are encouraged to apply.

VISA SPONSORSHIP: MIT sponsors visas only for certain academic and research positions. MIT does not sponsor the following individuals for employment-based visas or for exchange visitor visas: students; technical, administrative, library, or support staff members; individuals with inadequate funding, insurance, or credentials; or those whose particular visa history precludes sponsorship.