

Taylor Geospatial Institute – Chief Data Scientist

The Taylor Geospatial Institute at Saint Louis University invites applications, nominations, and inquiries for the role of Chief Data Scientist. The Institute seeks to recruit an innovative technical leader in geospatial research and development who will bring a broad vision of the opportunity set for this rapidly growing geospatial science enterprise located at the heart of a uniquely resourced regional hub of geospatial sciences innovation and development.

Taylor Geospatial Institute

[The Taylor Geospatial Institute \(TGI\)](#) launched in early 2022 as an interdisciplinary community of preeminent scientists that draws on the distinctive strengths and state-of-the-art computing infrastructure of eight research institutions to create and scale innovative, cutting-edge research programs that make a positive impact through the many disciplines that constitute geospatial science. TGI’s mission is to “advance geospatial science through multi-institutional, interdisciplinary collaborations in order to create innovative, real-world solutions to societal grand challenges.”

The Institute was established through a legacy investment from Andrew C. Taylor with supporting investments from each of the eight member institutions: St. Louis University, Washington University in St. Louis, Missouri University of Science and Technology, Danforth Plant Science Center, University of Illinois Urbana-Champaign, University of Missouri–Columbia, University of Missouri–St. Louis, and Harris-Stowe State University. The Taylors’ catalytic funding leverages St. Louis’ significant geospatial assets and accelerates the [region’s leadership](#) in the rapidly growing field of geospatial science: in addition to TGI, the region is the home of the National Geospatial-Intelligence Agency’s West Headquarters, known as N2W, and an active innovation ecosystem in which geospatial science-related companies, investors, and partners are creating the future of the field.

TGI aims to:

- Build a world-class, interdisciplinary research collaborative based on innovative technique and applications in location science to address scientific and societal grand challenges such as food security, supply chain resilience, health equity, and national security
- Establish a comprehensive geospatial science research infrastructure as a catalyst for collaboration and partnership with industry, government agencies, and research entities
- Translate research advancements into impactful commercial applications in partnership with the forthcoming National Center for Location Science
- Contribute to the overall effort to develop, maintain, and retain outstanding talent in partnership with the St. Louis GeoFutures Coalition

The design of the Institute, which is located on the campus of Saint Louis University, reflects thought given to supporting its growth and development as an entity that will serve both member institutions and client organizations. A Governing Council guides the Institute’s Director, informed by input from the Research Council and an External Advisory Board. The Institute is currently searching for its inaugural Director, with an appointment expected in the first half of 2023.

The Position

Working directly with and reporting to the Institute Director, the Chief Data Scientist (CDS) will lead a team of geospatial computing engineers, software developers, geospatial data scientists, imagery scientists and analysts to provide data curation (access, collection, and fusion) and analytics services to TGI partners. The CDS provides both hands-on, technical leadership of projects and initiatives and strategic direction of programs and investments that will build out and scale TGI's leading-edge resources. The CDS serves as the leading member of TGI Geospatial Data & Analytics Library (GDAL) team, directing the development of algorithms and methodologies for various projects, as well as taking responsibility for prioritizing service requests and deliverables that advance the work of TGI members and partners.

Standing up GDAL will be a significant area, though by no means the only area, of the Chief Data Scientist's early activity. GDAL will provide access to existing data sets in the TGI library or available commercially as well as custom data collection through its staff and equipment. The Chief Data Scientist will be responsible for the design and implementation of GDAL's digital data storage and access infrastructure. GDAL also aims to support the analytics phase of the research through access to expertise and research computing resources such as AI, machine learning, and deep learning capabilities along with access to High-Performance Computing (HPC) systems. TGI will have two dedicated HPC systems, one at Saint Louis University and one at the University of Illinois Urbana-Champaign. GDAL staff will also help with the visualization of the results and to provide simple geospatial services.

The broad set of responsibilities established for the Chief Data Scientist include:

- Lead the planning and implementation of TGI's research infrastructure
- Develop and manage the TGI data-management policies and the governance thereof
- Build the data architecture standards and data infrastructure (data collection, usage & management, data storage and access, data integrity and data archival)
- Develop short-term and long-term plans for cloud computing, data curation, and analytics services
- Design and implement AI/ML, statistical, or physics-based algorithms to provide quality data analytics service to TGI partners
- Direct data analytics team and carry out tasks such as field data collection, calibration, postprocessing, and analysis to provide timely results and analytics products to TGI partners based on priorities
- Coordinate TGI's geospatial data collection and analytics operations
- Execute special projects as assigned by the Institute Director

The definition of the CDS position emerged during the comprehensive work done to design TGI. The current vision for the role expects an approximately 70%/30% balance technical and managerial activity. This balance will likely evolve as the Institute's resources and programs mature and as the team under the CDS grows.

Competencies and Qualifications

- Demonstrated ability to design and implement machine learning algorithms for regression, detection/classification/segmentation problems with feature-based deep learning and end-to-end mapping/modeling with convolutional neural networks
- Experience in cloud computing and GPU computing
- Minimum of three years of experience in working with coding and online platforms such as Python, Jupyter Notebooks, Google Earth Engine, GitHub, and/or Google COLAB
- Experience with data collection in the field and generating analysis ready data sets from multiple sources (data QC, data calibration, data filtering, data fusion)
- Experience with project management and personnel supervision
- Ability to manage and navigate multiple tasks balancing near and long-term priorities, success rate, and available resources
- Organizational skills and the ability to multitask and prioritize projects while working on a deadline or in a fast-paced environment
- Personal qualities of integrity, professionalism, good judgment, a strong work ethic, and a commitment to service and treating others with respect

Minimum qualifications:

- Graduate degree in geospatial science or geoinformatics or a closely related field

Preferred qualifications:

- PhD in computer science, electronic engineering, geoinformatics, geospatial science or geography with demonstrated work experience in geospatial data such as imagery or location-aware social or health data records

Application Process

Saint Louis University has retained [Opus Partners](#) to support this recruitment. Craig Smith, Partner and Thomas Lapierre, Senior Associate & Certified Diversity Recruiter, are leading the search. For more information or to apply, please contact Thomas at thomas.lapierre@opuspartners.net. Applications should include a resume and cover letter that should address your experience related to the position responsibilities and the required and preferred competencies and qualifications.

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Saint Louis University is an equal opportunity/affirmative action employer. All qualified candidates will receive consideration for the position applied for without regard to race, color, religion, sex, age, national origin, disability, marital status, sexual orientation, military/veteran status, gender identity, or other non-merit factors. We welcome and encourage applications from minorities, women, protected veterans, and individuals with disabilities (including disabled veterans). If accommodations are needed for completing the application and/or with the interviewing process, please contact Human Resources at 314-977-5847.