



SENIOR DATA SCIENTIST

Department: Data & Modeling

Job Code: 7975

Grade: 22

Shakman Status: Exempt

Hiring Process: Exempt

FLSA Status: Exempt

Job Summary

Reporting directly to the Director of Data Science, the Senior Data Scientist uses advanced mathematical and statistical concepts and theories to analyze and collect data and construct solutions to problems in assessment methodologies for the Cook County Assessor's Office (CCAO). Performs complex statistical analysis of data relating to property assessment to validate and quantify trends or patterns. The Senior Data Scientist creates data pipelines, databases, tools, analyses, and predictive models. The Senior Data Scientist participates in the policy-making process by producing data-informed policy recommendations and prescriptive analytics. The Senior Data Scientist supervises and manages workflows, identifies and resolves issues or bugs with processes and scripts, identifies opportunities to improve processes and scripts, identifies potential new sources of data, and otherwise supports the Data Department, as needed.

Essential Job Duties

- Creates, manages, modifies, and implements statistical models to generate predicted property values and other predicted outcomes.
- Creates and updates statistical programs used to calculate assessment performance metrics and other measures of statistical precision and accuracy.
- Develops and codifies protocols to standardize code and data.
- Uses Git version control to synchronize local and remote repositories.
- Assists CCAO staff in leveraging data assets in the execution of their duties.
- Explores opportunities to gather or create new data valuable to the CCAO or the public.
- Collaborates with senior-level staff to build and maintain complex code bases that perform a wide range of production and analytics tasks.
- Collaborates with senior-level staff to build, maintain, and improve the data architecture and processes which facilitate the rest of the Department's work.
- Manages complex engagements and interfaces with CCAO staff to deliver data science projects which improve CCAO efficiency, transparency, and fairness.
- Manages data collection, data mining, cross-channel data integration, predictive analytics, reporting, dashboards, and data visualization.
- Collaborates with senior-level staff to develop strategies to identify and pursue opportunities to use data science within the CCAO to improve services.

- Leverages data to improve CCAO communications with the public, elected officials, and outside stakeholders.
- Assists the Chief Data Officer (CDO) to operate across organizational and computing "silos" to drive common approaches and expose information assets and processes across the enterprise.
- Assists the CDO to work with the Deputy Assessor - Chief Information Officer, architecture, database administrators, leadership, and County departments to evaluate and select appropriate database technologies and platforms.
- Assists the CDO to oversee existing databases, including backups.

The duties described above are not set forth for purposes of limiting the assignment of work. They are not to be construed as a complete description of the many duties normally to be performed under a job title or those to be performed temporarily outside an employee's normal line of work.

Minimum Qualifications

- Graduation from an accredited college or university with a bachelor's degree in data science, statistics, computer science, information science, mathematics, economics, or related quantitative field.
- Three (3) years of full-time work experience on data science, data engineering, technical, or operational teams.

OR

- Graduation from an accredited college or university with a bachelor's degree.
- Five (5) years of full-time work experience on data science, data engineering, technical, or operational teams.

Preferred Qualifications

- Graduation from an accredited college or university with a master's degree in data science, statistics, computer science, information science, mathematics, economics, or related quantitative field.
- Two (2) years of full-time work experience on data science, data engineering, technical, or operational teams.
- Proficiency in R, SQL, Git version control, or geographic information systems.

Knowledge, Skills, and Abilities

- Knowledge of and ability to operationalize CCAO policies, procedures, practices and guidelines or the ability to gain such knowledge, including the Employment Plan and Employee Handbook.
- Knowledge of CCAO's operations, function, procedures, activities and the property tax system, or the ability to quickly gain such knowledge.
- Competency in the following foundational concepts:
 - Programming in R, SQL, Python or other similar procedural languages.
 - Exploring data visually and geographically

- Building a data schema
- Linking datasets
- Familiarity with the responsibilities of the CCAO.
- Ability to describe business use cases/outcomes, data sources and management concepts, and analytical approaches/options.
- Excellent oral and written communication skills, including the ability to explain statistical concepts and technologies to non-technical business leaders, as well as business concepts to technologists.
- Ability to manage and execute technical and analytical projects cooperatively.
- Ability to script complex, object-oriented, and/or procedural scripts.
- Ability to meet CCAO and Departmental deadlines, production goals, and effectively utilize time with limited oversight.
- Ability to work with others and excellent interpersonal skills in dealing with elected officials, the public, co-workers, and staff.

Physical Requirements

- Visual acuity to review and edit written communications for long periods of time.
- Walking between offices and buildings may be required.
- Repetitive use of hands to handle and/or operate standard office equipment.

**COOK COUNTY ASSESSOR'S OFFICE IS AN EQUAL OPPORTUNITY
EMPLOYER**

Last modified: May 11, 2023