



## **NOTICE OF JOB AVAILABILITY SENIOR DATA SCIENTIST (RESIDENTIAL)**

Reporting directly to the Deputy Assessor - Chief Data Officer (CDO), the Senior Data Scientist is responsible for advanced mathematical and statistical concepts and theories to analyze and collect data and construct solutions to problems in assessment methodologies for residential real estate. Performs complex statistical analysis on assessment data of residential real estate to validate and quantify trends or patterns identified by junior data scientists and modelers. The Senior Data Scientist constructs predictive models, algorithms and probability engines to support data analysis; verifies model and algorithm effectiveness based on real-world results. Designs experiments and methodologies to generate and collect data for use in the valuation and assessment processes. 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 the workflow of direct reports, identifies and resolves issues or bugs with processes and scripts, identifies opportunities to improve processes and scripts, identifies potential new sources of low-cost data, and otherwise supports the CDO, as needed.

### **Essential Job Duties**

#### ***Works with the Chief Data Officer to:***

- Develop and codify coding and data protocols.
- Assist CCAO staff in leveraging data assets in the execution of their duties.
- Explore opportunities to gather or create new data valuable to the public.

#### ***Data Science***

- Collaborates with senior-level staff to build and maintain a complex code base that performs a wide range of production and analytics tasks.
- Manages complex engagements and interfaces with CCAO staff to deliver data science projects that provide improvements to 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.
- Manages relationships with external parties, such as academic researchers, pro bono consultants, and university students to help develop new projects.

#### ***Business Intelligence***

- Leverages data to develop performance indicators for critical internal CCAO processes.
- Leverages data to improve CCAO communications with the public, elected officials, and outside stakeholders.

### ***Database Administration***

- Assists the 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.

### ***Scrum Master***

Certain designated Senior Data Scientists will have the responsibility of serving as the scrum master for the Data & Modeling Department, and will have the following additional duties:

- Regularly reviews code and output to ensure completion and quality.
- Manages projects involving the production of new processes and data strategies.
- Identifies and resolves issues or bugs with processes and scripts, identifies opportunities to improve processes and scripts, identifies potential new sources of low-cost data, and otherwise supports the CDO as needed.
- Develops and maintains documentation and other materials pertaining to the CCAO's data project management plan.
- Trains CCAO staff in agile management principles.
- Coordinates activity on project management tools with senior-level staff.

**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 or Master'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.

### **Preferred Qualifications**

- Master's degree in data science, statistics, computer science, information science, mathematics, economics, or related field.
- Three (3) years of work experience leading data science, data engineering, technical, or operational teams.
- Experience in legal and regulatory areas.

### **Knowledge, Skills, and Abilities**

- Knowledge of and ability to consistently interpret and apply CCAO policies, procedures, practices and guidelines or the ability to gain such knowledge.
- 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.
  - Differentiating data sources
  - Exploring data visually
  - Mapping data, particularly using geographic information systems (GIS)
  - Building a data schema
  - Linking datasets
- Familiarity with federal, state, or local government operations is helpful.
- Knowledge of strategic technology planning and execution, and policy development and maintenance.
- 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 digital concepts and technologies to business leaders, as well as business concepts to technologists.
- Excellent business acumen and interpersonal skills; able to work across business lines at senior levels to influence and effect change to achieve common goals.
- Outstanding analytical and problem-solving abilities.
- Ability to script complex, object-oriented and procedural scripts in R
- Ability to lead and cooperate on specific projects related to the functions of the Department.
- 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.
- Must be computer literate, with skill and efficiency in entering and retrieving data, and possess the ability to utilize CCAO systems and databases.

### **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.
- Regular use of a telephone to communicate.

**ANNUAL SALARY:** Commensurate with Experience.

**METHOD OF APPLICATION:** To apply for this position, please send a cover letter and your resume to Monica C. Lee, Director of Human Resources at [mlee@cookcountyassessor.com](mailto:mlee@cookcountyassessor.com).

Applicants chosen to interview for the position will be sent a screening test to gauge their skillsets for the position.

**APPLICATION DEADLINE:** The posting will remain open until the position is filled.

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