City of Fort Worth, Texas
Job Description

Classification Title	Senior Data Science Analyst		
Job Code:	PR5930	**Job Family:**	Professional
Pay Grade	710	**Date Reviewed:**	3/26/2024
FLSA Status	Exempt	**Date Revised:**	

GENERAL SUMMARY

Reviews, analyzes, and studies the collection, retrieval, and management functions to determine efficiency and effectiveness of data control. Conducts studies, gathers and analyzes data from various databases and sources, develops reports, summaries, recommendations, and visual representations, performs statistical analyses, and provides consultation and technical assistance.

ESSENTIAL DUTIES & RESPONSIBILITIES

The intent of this job description is to provide a representative summary of the major duties and responsibilities performed by incumbents of this job. Incumbents may be requested to perform job-related tasks other than those specifically presented in this description.

1. Utilizes advanced statistical techniques, machine learning, and predictive modeling to solve complex business problems and generates actionable insights.

2. Leads cross-functional projects and collaborates with different departments, understanding their data needs, and provides expert solutions.

3. Dives deep into vast datasets, extracting valuable insights and identifying patterns, trends, and relationships.

4. Designs, tests, and implements robust data algorithms for optimization and automation.

5. Identifies, designs, and integrates new data features to enhance model performance.

6. Guides and mentor's junior data science analysts, facilitates their professional growth and ensures best practices are followed.

7. Develops advanced visualizations to communicate complex data findings to stakeholders in a clear and compelling manner.

8. Keeps abreast of the latest industry trends, tools, algorithms, and best practices in data science.

9. Continuously monitor, validate, and refine models to ensure they are providing optimal results. Adjusts as necessary based on changing data and business needs.

10. Works with data scientists and engineers to develop and implement new data-driven solutions.

11. Produces detailed and comprehensive reports on findings, including recommendations for business strategies based on data-driven insights.

12. Continuously assess and refine analytical procedures and methodologies, driving efficiency and innovation.

13. Performs other related duties as required.

14. Adheres to assigned work schedule as outlined in the Department and City attendance policies and procedures; ensures all behaviors comply with the City's Personnel Rules and Regulations.

KNOWLEDGE, SKILLS & ABILITIES

- **Knowledge of:**
  - Developing, promoting and rolling out new data functions.
  - Concepts of Data Science and Big Data Analytics.
  - GIS and other spatial analysis tools.
  - Data modeling tools.
  - Advanced statistical methods and techniques, including time series analysis, and experimental design.
  - Ethical considerations and best practices in data science, including data privacy.
  - Knowledge of data automation for scaling data processes.
  - Data security and encryption practices to ensure data protection.
  - Project management methodologies to effectively manage and prioritize tasks.
- **Skill in:**
  - Computer programming, database querying, statistical modeling, dashboarding, and visualization of data.
  - Data mining and text mining
  - Data quality assurance and data governance
  - Mentoring and training junior data analysts
  - Cloud computing platforms (e.g Azure, or GCP)
  - Data management and systems.
  - Data warehousing and data engineering.
  - Advanced data manipulation techniques, including feature engineering and data transformation.
  - Handling streaming data and real-time analytics.
  - Advanced data visualization techniques to convey complex information effectively.
  - Handling and analyzing geospatial data for location-based analysis.
  - Cloud-based data services for scalable data solutions.
  - Advanced data quality assurance techniques.
  - Best practice data solutions and warehouse architecture including lakehouse.

- **Ability to:**
  - Communicate clearly and effectively, both orally and in writing.
  - Establish and maintain effective working relationships.
  - Manage and prioritize multiple projects simultaneously.
  - Communicate complex technical concepts to non-technical audiences.

- ➢ Work with data visualization tools (e.g., Tableau, Power BI)
- ➢ Work with programming tools Python, R, or SQL and machine learning and artificial intelligence tools.
- ➢ Work with big data technologies (e.g., Hadoop, Spark).
- ➢ Communicate data-driven insights effectively to various audiences.
- ➢ Translate business goals into advanced data science strategies and solutions.
- ➢ Manage and mitigate risks associated with data analysis projects.
- ➢ Develop and maintain data science best practices and standards.
- ➢ Work with external data vendors and partners as necessary.
- ➢ Collaborate effectively with cross-functional teams, including engineers, business analysts, and domain experts.
- ➢ Develop and document data science best practices and standards.

MINIMUM JOB REQUIREMENTS

Bachelor's Degree from an accredited college or university with course work in Computer Science, Finance, Economics, Public Administration, Business Administration, Information Technology, or a related field and at least four years of experience required.

OTHER REQUIREMENTS

None.

WORKING CONDITIONS

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

Depending on assignment, positions in this class typically require touching, talking, hearing, seeing, grasping, standing, stooping, kneeling, crouching, reaching, walking and repetitive motions.

PHYSICAL DEMANDS

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

Light Work – Depending on assignment, positions in this class typically exert up to 20 pounds of force occasionally, up to 10 pounds of force frequently, and/or a negligible amount of force constantly having to move objects. If the use of arm and/or leg controls requires exertion of forces greater than that for the Sedentary Work category and the worker sits most of the time, the job is rated Light Work.