

# **JOB DESCRIPTION**

## **San Diego County Office of Education**

### **Data Scientist**

#### **Purpose Statement**

The Data Scientist gathers and evaluates data across multiple, diverse sources in order to create innovative and scalable learning solutions aimed at improving educational opportunities and outcomes for students at all levels.

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This position description is intended to describe the general nature and level of work being performed by the employee assigned to the position. This description is not an exhaustive list of all duties, responsibilities, knowledge, skills, abilities, and working conditions associated with the position. Incumbents may be required to perform any combination of these duties. All requirements are subject to possible modification to reasonably accommodate individuals with a disability.

#### **Essential Functions**

- Applies mathematical statistics, algorithm design, modeling, optimization, and business acuity to support and drive the development of data-driven educational products and services for the County Office, school districts, and charter schools.
- Performs highly complex research and collaborates with technology and software development resources to create, troubleshoot, and implement solutions that address public education and economic challenges that impact student achievement.
- Collaborates with local, regional, statewide, and nationwide educational, policy, business, and technology contacts to gather and analyze big data and apply predictive analytics with a focus on creating dynamic adaptive learning resources for students.
- Drives the collection of new data and refines existing data sources to ensure a robust and comprehensive data set on which to base findings and recommendations; obtains, cleans, and converts data sources, ensuring that all operations comply with local, state, and federal data security laws and regulations regarding student information.
- Develops, documents, trains, and mentors others in the application of best practices for data collection and analysis, instrumentation, and experimentation to establish analytical frameworks and validate findings and recommendations.
- Collaborates with technical resources to design, implement, secure, and maintain data architecture strategies around the enterprise data warehouse and the use of management and business intelligence tools.
- Communicates findings to a variety of stakeholders, at differing levels of technical proficiency, to share data analysis results, gather feedback, and create momentum to adopt new and improved learning solutions.
- Collaborate with others to publish findings for a variety of audiences, including scientific papers, data extracts, articles for industry publications, etc.

- Attends various professional meetings to remain current concerning trends in the field; attends and/or presents at local, regional, statewide, and nationwide meetings and events as assigned to collect and/or distribute data on behalf of SDCOE's data-driven efforts to innovate learning solutions for students.
- Develops, implement, and maintain records and information dashboards to track and report on project, statuses, and outcomes.
- Supports, monitors activities, mentors, and evaluates staff as assigned; may directly supervise clerical and/or technical staff members.

#### **Other Functions**

- Performs other related duties as assigned for the purpose of ensuring the efficient and effective functioning of the work unit.

#### **Job Requirements: Minimum Qualifications**

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

SKILLS required to satisfactorily perform assigned duties include: operating standard office equipment including utilizing pertinent software applications (e.g., Word, Excel, databases, PowerPoint); planning and managing projects and programs; operating within established financial parameters; developing effective working relationships; preparing and maintaining accurate records and dashboards; administering personnel policies and procedures as assigned; and applying program evaluation and assessment techniques.

KNOWLEDGE required to perform assigned duties includes: advanced data mining and analysis techniques; student data security protocols; statistical programming tools (e.g., R, Python, SQL); data visualization tools (e.g., Tableau, D3, AJAX, or jQuery); complex mathematical calculations and projections; administrative and technical expertise with Customer Relationship Management (CRM) platforms; data warehouse tools; machine learning techniques, including classification and outlier detection of data; business process improvement tools (e.g., LEAN/Six Sigma or similar); personnel processes; and research-based strategies to analyze and improve student achievement.

ABILITY is required to schedule a significant number of activities, meetings, and/or events; routinely gather, collate, and/or classify data; use job-related equipment; demonstrate flexibility to work independently and with others in a wide variety of circumstances; analyze data utilizing defined but different processes; work effectively with a significant diversity of individuals and/or groups; work with data of varied types and/or purposes; work independently and with others to solve complex problems and create action plans; interpret and apply laws, regulations, and guidelines to accomplish tasks; communicate effectively orally and in writing with diverse populations; establish and maintain effective working relationships; meet multiple deadlines and manage conflicting schedules; set priorities; work with multiple projects, frequent interruptions, and changing work priorities; work with detailed information/data and maintain accurate records; maintain confidentiality; facilitate communication between persons with frequently divergent positions; and work extended hours as needed to accomplish assigned tasks.

**Responsibility**

Responsibilities include: working under limited supervision using standardized practices and/or methods; directing other persons as assigned within a small work unit; tracking budget expenditures. Utilization of resources from other work units is sometimes required to perform the job’s functions. There is some opportunity to impact the organization’s services.

**Working Environment**

The usual and customary methods of performing the job’s functions require the following physical demands: some lifting, carrying, pushing, and/or pulling, and significant fine-finger dexterity.

The job generally requires 70% sitting, 20% walking, and 10% standing. This job is performed in a generally clean and healthy environment.

**Experience:** Three (3) years of professional-level experience in data mining/analysis, including conducting large-scale data analyses to evaluate and/or present recommendations to innovate processes or resolve issues. Direct experience in the field of education is highly desirable. Direct experience supervising staff is highly desirable.

**Education:** A master’s degree from an accredited college or university in computer science, mathematics, statistics, analytics, economics, or other closely related field.

**Equivalency:** A combination of education and experience equivalent to a master’s degree from an accredited college or university in computer science, mathematics, statistics, analytics, economics, or other closely related field, and three (3) years of professional-level experience in data mining/analysis, including conducting large-scale data analyses to evaluate and/or present recommendations to innovate processes or resolve issues.

**Required Testing**

N/A

**Certificates**

Valid CA Driver’s License

**Continuing Educ./Training**

N/A

**Clearances**

Criminal Justice Fingerprint/Background Clearance

Proof of physical examination including TB Clearance

**FLSA Status:** Exempt

**Salary Range:** Classified Management Grade 44

Established: 9/2018

Revised: N/A

Approved by the Personnel Commission: 9/12/2018