

Duty Statement
California Government Operations Agency
State of California



☐ Current ☒ Proposed

Classification Title Information Technology Specialist III	Division Data Infrastructure
Working Title Senior Data Engineer	Office/Unit/Section Office of Cradle-to-Career Data
Position Number 424-100-1415-900	Effective Date
Name Vacant	Date Prepared 10/6/26

General Statement

The Office of Cradle-to-Career Data (C2C) is building a statewide longitudinal data system that will provide policymakers, researchers, educators, students, families, and other stakeholders answers to key questions about student progression and outcomes. The data system will help provide critical information about the pipelines from early care to K-12 to higher education skills training and employment along with health and human services data. This data system will help support teachers, advisors, parents and students and be an evidence-based tool that decision makers and researchers can use to help California adopt more equitable policies by providing insight into how educational experiences impact students' subsequent academic achievement, work, and earnings.

Under the administrative direction of the Delivery Manager, the Senior Data Engineer will ingest and integrate new workforce and earnings data via C2C's existing data partners leveraging established data governance practices, including existing legal agreements.

Duties include, but are not limited to:

Job Functions

Essential (E) / Marginal (M) Functions

45% Design and Develop (E)

- Support the design, implementation, maintenance and operations of the C2C Data System using technologies including, but not limited to, the following: Amazon Web Services (AWS), Snowflake, dbt, and Okta.

- Plan, design, develop, and implement processes for C2C Master Data Management, including, but not limited to, the following: ingestion, validation, quality, transformation, and integration.
- Ensure data moves securely and performantly to enable data for consumption by data services.
- Analyze pipeline throughput, issues, and other metrics to inform and implement improvements to the automation platform.
- Standardize and improve existing pipelines to adhere to best industry standard data practices.
- Oversee data engineering work of external consultants to ensure alignment with business needs and stakeholders.
- Advise management on formulating data engineering strategy, policy, and governance.
- Collaborate with business and management teams to establish business data needs and develop strategies for long-term data platform architecture.
- Develop, plan, review, document, advise, and communicate data engineering policies, processes, procedures, standards, guidelines, and best practices to project team members.

20% Data Quality and Security (E)

- Design, develop, and document patterns and practices to help ensure all data is profiled, reviewed, and accurate to support critical decisions.
- Design and develop data quality metrics and data quality alerting system to ensure integrity and validation of the data for the Cradle-to-Career Data System.
- Act as a subject matter expert to develop high-quality, well-tested, maintainable code across an entire data engineering lifecycle, using modern software development best practices, including continuous integration and continuous delivery.
- Design, develop, and maintain documentation so all Office of Cradle-to-Career Data team members know their roles and responsibilities in meeting data quality metrics.

20% Collaborate and Support (E)

- Collaborate with Data Infrastructure members and contractors; support and implement data engineering platforms for the Cradle-to-Career Data System to meet the business needs.
- Collaborate with Data Infrastructure team members to guide and implement architectural improvements to the data infrastructure.
- Collaborate with Data Infrastructure team members to evolve Continuous Integration and Continuous Delivery strategy, including robust monitoring, altering and recovery.
- Collaborate with external data providers, both internal and external to the State, to define requirements for data pipelines to securely ingest data into the Data System.
- Support Office of Cradle-to-Career Data team members to identify and implement modeling approaches and methods.

10% Share and Consult (E)

- Conduct presentations to share documented patterns and best practices utilized by the Cradle-to-Career Data System through a variety of forums including communities of practice.
- Advise on data engineering requirements and needs as part of project solicitation, vetting, and scoping processes.
- Maintain and improve knowledge of emerging technologies for various cloud environments, Identity Management solutions, Master Data Management technologies and Visualization tools, state accessibility requirements; develop staff skill sets and maintain the stability of the Data System.

5% Marginal Functions (M)

- Perform a variety of administrative activities that provide efficiencies to C2C and the Data Infrastructure team.
- Participate in special ad hoc committees, staff meetings, teams and projects, time reporting and procurements.
- Prepare correspondence, reports, and issue papers related to data and software, hardware, and the C2C Data System.
- Other duties as required.

Supervision Received

The Senior Data Engineer reports directly to and receives most assignments from Delivery Manager; however, direction may also come from the Executive Team.

Supervision Exercised

The Senior Data Engineer will not exercise any formal supervision; however, they will provide project and program leadership and functional guidance to state staff and contractors.

Desirable Qualifications

- Five or more years of direct, hands-to-keyboard experience implementing complex data systems using AWS, Snowflake, and dbt.
- Five or more years of direct, hands-to-keyboard experience automating, orchestrating, and maintaining data pipelines from end-to-end which includes, but is not limited to, the following: ingestion, validation, quality, transformation, and integration.
- Five or more years of direct, hands-to-keyboard experience protecting and securing sensitive data in accordance with state and federal laws, regulations, and standards which includes, but is not limited to, the following: FIPS, NIST, FERPA, HIPAA, the Higher Education Act, and the Privacy Act.

Personal Contacts

The incumbent will work with teams across the Office of Cradle-to-Career Data and GovOps Agency staff, community organizations, a wide range of stakeholders, and external contractors and advisors.

Functional Requirements

The demands described here are representative of those that must be met by the incumbent, with or without a reasonable accommodation, to successfully perform the essential functions of the job:

- Regular and consistent attendance is essential to the successful performance in this position.
- The Senior Data Engineer is expected to be prepared and professional and must maintain an agreed upon schedule and/or be flexible in terms of work hours, if the position is excluded.
- Requires daily use of a personal computer and related software applications at a workstation.
- Requires ability to complete tasks that typically may require making repetitive hand movements in the performance of daily duties, with or without reasonable accommodations and modifications to facilitate such tasks.

The duties of this position are performed indoors. C2C Headquarters is located at 400 R Street, Sacramento, CA 95811 and is equipped with standard or ergonomic office equipment, as appropriate. A hybrid work schedule is acceptable pursuant to an approved Telework Agreement. Additionally, occasional travel and overnight stays may be required to attend meetings, conferences, and training.

Background Checks and Clearance

The successful candidate will be required to pass a criminal background check (see Education Code 10873).

I have read and understand the duties listed above and I can perform these duties with or without reasonable accommodation. * (If you believe reasonable accommodation is necessary, discuss your concerns with the hiring supervisor. If unsure of a need for reasonable accommodation, inform the hiring supervisor, who will discuss your concerns with the RA Coordinator.)

*A reasonable accommodation is any modification or adjustment made to a job, work environment, or employment practice or process that enables an individual with a disability or medical condition to perform the essential functions of their job or to enjoy an equal employment opportunity.

Employee Signature	Employee Printed Name	Date

Duties of this position are subject to change and may be revised as needed or required.

I have discussed the duties of this position with and have provided a copy of this duty statement to the employee named above.

Supervisor Signature	Supervisor Printed Name	Date