



## Duty Statement

Current     Proposed

Item	Position information
Office/Department	Office of Data and Innovation (ODI)
Unit/Section	
Classification	
Working title	Principal AI Engineer
Position number	
Prepared date	
Effective date	
Name	Vacant

## General Statement

Under the administrative direction from the Deputy Director, Advanced Analytics & Evaluation, the **Principal AI Engineer** will serve as a leading technical expert and architect for AI solutions, such as Large Language Models (LLMs), agentic systems, and context-aware reasoning applications . The Principal AI Engineer will focus on engineering the systems that leverage pre-trained foundation models to solve critical state challenges while providing a ‘product-thinking’ mindset to help state clients evolve from manual workflows to AI-augmented efficiency.

The incumbent will lead the technical enablement of responsible AI adoption, prioritizing the use of AI features within existing licensed cloud platforms common across state departments (e.g., Microsoft Azure, Snowflake, GCP, AWS). This role is highly collaborative, working cross-functionally within ODI and with client departments to design and implement robust, scalable, and ethically governed AI systems that enhance efficiency, improve public services, and promote equitable outcomes for Californians. The incumbent is expected to be a teacher, mentor, and continuous learner, fostering a strong AI engineering culture across the state.

## Essential Functions

Percentages	Description
35%	<p><b>AI/LLM Solution Architecture and Operationalization</b></p> <p>Leads the design and engineering of production-ready AI applications that utilize foundation models to drive state departmental efficiency. Key responsibilities include:</p> <ul style="list-style-type: none"> <li>• <b>Context-aware systems:</b> Architecting, developing, and deploying intelligent applications that utilize grounding techniques - including Retrieval-Augmented Generation (RAG), long-context, and tool orchestration - to ensure LLM responses are anchored in authoritative data sources and real-time state information</li> <li>• <b>Infrastructure optimization:</b> Maximizing cloud platforms (e.g., AWS Bedrock, Azure OpenAI, Snowflake Cortex) to build scalable AI applications</li> <li>• <b>Unstructured data transformation:</b> Engineering scalable NLP pipelines using embeddings and clustering to transform complex narratives and unstructured document text into structured, actionable insights</li> <li>• <b>Agentic orchestration:</b> Implementing autonomous and multi-agent workflows (e.g. LangChain) within defined guardrails to streamline information retrieval and augment human analysis while maintaining human-in-the-loop oversight</li> <li>• <b>Data pipeline and quality alignment:</b> Collaborating with CalData's Data Operations and Engineering team to promote data engineering best practices to design, build, and optimize data pipelines and features that feed production AI/ML systems, ensuring data quality, lineage, and compliance with standards.</li> <li>• <b>Iterative product operationalization:</b> Collaborating with cross-functional teams to transition proof-of-concepts (POCs) and minimum viable products (MVPs) into secure, production-ready, and monitored services, promoting an iterative product delivery mindset.</li> <li>• <b>MLOps and CI/CD implementation:</b> Establishing and maintaining Continuous Integration/Continuous Deployment (CI/CD) pipelines for ML models (MLOps) to automate testing, deployment, and performance monitoring.</li> <li>• <b>Privacy-first data engineering:</b> Advising and implementing solutions for privacy-first data use and access, such as secure data enclaves and de-identification techniques.</li> </ul>
30%	<p><b>Responsible AI Enablement and Client Consultation</b></p> <p>Acts as a subject matter expert and trusted advisor to client departments and state leadership on the practical, ethical, and safe implementation of AI technologies.</p> <ul style="list-style-type: none"> <li>• <b>Use-case identification:</b> Partnering with state departments to diagnose business pain points and prioritize AI opportunities</li> <li>• <b>Technical advisory and scoping:</b> Providing hands-on advisory services to client departments to accelerate AI projects including problem scoping, technology selection, and defining success metrics.</li> </ul>

Percentages	Description
	<ul style="list-style-type: none"> <li><b>Ethical AI operationalization:</b> Leading the technical application of Responsible AI enablement principles, including conducting and reviewing bias and impact assessments, transparency measures, and ensuring human-in-the-loop are embedded for high-stakes decisions.</li> <li><b>Policy-to-technology translation:</b> Partnering with the CalData Policy and Program team to translate ethical guidelines and policy changes into technical requirements and operational controls for AI systems.</li> </ul>
20%	<p><b>Training, Mentorship, and Data Workforce Development</b></p> <p>Builds technical capacity across CalData and the state workforce by serving as a teacher and coach for modern AI engineering practices.</p> <ul style="list-style-type: none"> <li><b>Curriculum development and technical instruction:</b> Developing and leading technical training sessions, workshops, and coaching for state employees on advanced topics such as cloud-based AI features, MLOps practices, responsible AI development, and advanced Python engineering.</li> <li><b>Technical mentorship and code stewardship:</b> Serving as an AI technical mentor to Data Scientists, Data Engineers, and Analysts promoting best practices in production-quality code, model deployment, and cloud security.</li> <li><b>Strategic content alignment:</b> Contributing to the technical content and strategy of AI-focused services and CalAcademy training.</li> <li><b>Knowledge sharing and community engagement:</b> Actively participating in Data Communities of Practice to share technical solutions, surface pain points, and drive the adoption of common architecture patterns.</li> <li><b>Organizational AI fluency:</b> Championing the state's AI literacy by acting as a lead mentor and educator, organizes cross-training sessions, 'lunch and learns,' and technical workshops to upskill CalData staff and ensure the team evolves alongside the technology.</li> </ul>
10%	<p><b>Continuous Learning and Capacity Building</b></p> <p>Expands the state's technical capabilities and readiness through the continuous exploration of emerging AI technologies and the strategic alignment of foundational infrastructure.</p> <ul style="list-style-type: none"> <li><b>Emerging technology research:</b> Fostering technical fluency by piloting and evaluating new AI tools and frameworks, synthesizing research into shared guidelines that upskill the team and modernizing internal workflows.</li> <li><b>Infrastructure and data architecture evolution:</b> Build long-term institutional capacity by guiding the evolution of data systems, ensuring the architecture is robust enough to support complex AI governance and scalable innovation.</li> </ul>

**Marginal Functions**

%	Description
5%	Perform other staff assignments as appropriate and required

**Supervision Received**

The Principal AI Engineer reports to the Deputy Director, Advanced Analytics & Evaluation.

**Supervision Exercised**

None

**Working Conditions**

The employee regularly works in an indoor and climate-controlled office setting under artificial light. The employee's workstation is located in Sacramento, CA, and is equipped with standard or ergonomic office equipment. May sit for an extended period using a keyboard and video display terminal. Based on departmental or operational needs, the employee may have a teleworking option. The employee can work full-time from anywhere within California. Occasional travel may be required to attend meetings in Sacramento, offsite, conferences, and/or training classes. On occasion, may require flexible work schedules, including some evening hours to complete assignments, meet deadlines, and provide support to the Directorate.

**Attendance**

Must maintain regular and acceptable attendance at such a level as is determined ODI's sole discretion. Must be regularly available and willing to work the hours the department determines are necessary or desirable to meet its business needs.

**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.)

*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.*

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

Employee Signature	Employee Printed Name	Date

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

<b>Supervisor Signature</b>	<b>Supervisor Printed Name</b>	<b>Date</b>