Job Title	Senior Data Engineer
PVN ID	PS-2508-006981
Category	Managerial and Professional
Location	CUNY SCHOOL OF PROFESSIONAL STUDIES
Department	Office of Innovative Learning Solutions
Status	Full Time
Annual Salary	$115,000.00 - $130,000.00
Hour(s) a Week	35
Closing Date	Oct 19, 2025 (Or Until Filled)

General Description

As a leading online school in New York since 2006, the CUNY School of Professional Studies (CUNY SPS) offers the most online bachelor's and master's degree options at the City University of New York, and serves as the University's first undergraduate all-transfer college. With 26 degrees and numerous other non-degree and grant-funded workplace learning programs, CUNY SPS meets the needs of adults who wish to finish a bachelor's degree, progress from an associate's degree, earn a master's degree or certificate in a specialized field, and advance in the workplace or change careers.

Consistently ranked highly by U.S. News & World Report for its online offerings, CUNY SPS has emerged as a nationwide leader in online education. The School's renowned and affordable online programs ensure that busy working adults may fulfill their educational goals on their own time and schedule. As CUNY SPS moves beyond its' 20th year, we dedicate ourselves to engendering an innovative and transformative student-centered experience.

Background:

CUNY SPS seeks a Senior Data Engineer who will work on, and be embedded with, the Benefits Access Program, sponsored by the Mayor's Office for Economic Opportunity (NYC Opportunity), within their Poverty Research Unit. NYC Opportunity helps New York City apply evidence and innovation to reduce poverty and increase equity. They work to improve government systems by advancing research, data, and design in program and policy development, service delivery, and budget decisions. Their work includes analyzing existing anti-poverty approaches, developing new strategies, facilitating the sharing of data across City agencies, and rigorously assessing the impact of key initiatives.

NYC Opportunity works collaboratively with City agencies to design, test, and oversee new programs and digital products. NYC Opportunity also produces research and analysis of poverty and social conditions, including its influential annual Poverty Measure, which provides a more accurate and comprehensive picture of poverty in New York City than the federal rate and are active in making equity a core governing principle across all agencies.

NYC Opportunity's Poverty Research Unit (PRU) is responsible for publishing the NYC.gov poverty measure. This nationally recognized metric plays a crucial role in assessing and informing policies aimed at alleviating poverty in New York City. This measure is integral for evaluating existing strategies and formulating new initiatives aimed at reducing economic hardship. PRU produces valuable insights into issues of poverty, inequality, and workforce programs, thereby directly contributing to the City's policy initiatives. Additionally, the team supports the Equity NYC indicators and generates data-driven content. Through collaboration with city agencies, PRU provides data, analysis, and expertise specific to New York City, focusing on poverty, inequality, and the workforce system.

Ultimately, the objective of PRU's work is to enhance the accuracy of anti-poverty efforts, assess the efficacy of programs, and mitigate disparities among communities in New York City.

Description:

We are seeking a skilled and mission-driven Senior Data Engineer to support NYC Opportunity's government-led research on poverty, income inequality, and social mobility. The successful candidate will design, build, and maintain robust data pipelines and infrastructure to enable high-quality empirical research. The primary responsibility focuses on managing data collection, integration, and transformation activities in support of producing the NYCgov poverty measure. Responsibilities include providing data technology guidance, design support, task automation, and scripting. The position requires collaboration within the Poverty Research Unit and with cross-functional teams to extract insights from various data sources, build and maintain data pipelines, and develop impactful visualizations.

Other Duties

- Data Engineering Leadership
  - Develop data architecture solutions to enable reproducible research and support long-term storage of historical and current data sets.
  - Design and implement scalable ETL processes for large datasets from surveys, administrative sources, and third-party providers.
  - Implement data validation routines to ensure data quality, accuracy, and reliability standards are met.
  - Coordinate and manage data across income components and version control of poverty metrics.
  - Streamlining the production of poverty research data to ensure fast access to metrics.
  - Documenting research databases, including description of content, context, and changes; enhancing the ability to promote discovery through the use of data.
- Data pipeline management and collaboration:
  - Build and maintain various indicator data pipelines with city agencies and external partners, ensuring efficient data flow and integrity.
  - Own the development and maintenance of data pipelines, including new data on economic security and risks
- Efficiency Optimization
  - Guide data architecture towards modern and efficient approaches
  - Manage query efficiency and adjust data structures and toolsets as needed to meet evolving requirements
  - Develop automation of data processes, minimizing the need for manual intervention
- Data Analysis and Visualization

- Collaborate with analysts on predictive models for benefit take-up, income, and expenditures to contribute to the annual production of the NYCgov poverty measure
      - Responding to rapid data requests
      - Supporting the modeling of policy alternatives and their comparative outcomes (anti-poverty impacts and distributional consequences)
  - Poverty Dashboard
      - Maintain, optimize, and document the data pipeline feeding into the poverty dashboard.
      - Work closely with the digital product team to enhance and deploy the poverty dashboard. This dashboard is designed to be a valuable resource, offering the public clear insights into poverty issues and empowering them to advocate for change.
  - Data Insights and Strategies
      - Collaborate with the product team to create user-friendly applications to help the city agencies and the general public use our data offerings and analytical reporting.
  - Other duties as assigned

Qualifications

Preferred Skills & Experience

- Extensive experience with AWS cloud services: in particular, S3, Redshift, Lambda, ETL services such as Data Pipeline or Glue, CI/CD service (Code Pipeline), and CodeCommit.
- Proficiency in scripting languages, including R, Python, and Bash, is required. Proficiency in JavaScript is a plus.
- Certifications in cloud platforms, such as AWS Certified Solution Architect or Data Engineer, are preferred.
- Knowledge and experience with ML engineering is a plus
- Experience with database technologies such as MySQL, PostgreSQL, MongoDB, and Amazon Redshift.
- Experience with a version control system (preferably GitHub)
- Familiarity with anti-poverty policies and benefit programs at the federal, state, or local level, such as SNAP, the Earned Income Tax Credit, or housing assistance programs.
- Experience in government or non-profit work, particularly with low-income and vulnerable youth, families, and immigrant populations, is a plus.
- Familiarity with administrative data or large datasets such as the American Community Survey, Current Population Survey, or the NYC Housing and Vacancy Survey.
- Strong problem-solving and analytical skills with a keen attention to detail.
- Must be able to work both independently and in a collaborative setting.
- Excellent verbal and written skills.
- Ability to work under occasional deadline pressure.
- Proven experience in architecting and managing data systems is required.

Preferred Education Requirement

- Must have a Bachelor's degree in computer science, engineering, information technology, data science, or a related field, plus a minimum of four years full-time experience as a data engineering role in designing building, and managing scalable and reliable data system or a cloud engineering role with specialization in cloud architects, automation, and cloud software development that build and maintain software features

and functions, databases and applications for cloud technologies;
- A master's degree in the aforementioned fields can be considered an equivalent substitute for two years of professional experience.
- An advanced degree, such as an MS or PhD in the above fields, is preferred.

Please note: Candidates must be authorized to work in the United States. Sponsorship is not available for this position.

To apply, please submit a cover letter and resume.

Location: Downtown Brooklyn, NY

The Research Foundation of the City of New York & Diversity

Diversity is a core value at the Office of Innovative Learning Solutions (ILS) at the CUNY School of Professional Studies (CUNY SPS). We are passionate about building and sustaining an inclusive and equitable working and learning environment for all students, staff, and faculty and believe every member on our team enriches our diversity by exposing us to a broad range of ways to understand and engage with the world, identify challenges, and to discover, design and deliver solutions.