Analytics Engineer

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Analytics Engineer

University Overview

The University of Pennsylvania, the largest private employer in Philadelphia, is a world-renowned leader in education, research, and innovation. This historic, Ivy League school consistently ranks among the top 10 universities in the annual U.S. News & World Report survey. Penn has 12 highly-regarded schools that provide opportunities for undergraduate, graduate and continuing education, all influenced by Penn's distinctive interdisciplinary approach to scholarship and learning. As an employer Penn has been ranked nationally on many occasions with the most recent award from Forbes who named Penn one of America's Best Large Employers in 2023.

Penn offers a unique working environment within the city of Philadelphia. The University is situated on a beautiful urban campus, with easy access to a range of educational, cultural, and recreational activities. With its historical significance and landmarks, lively cultural offerings, and wide variety of atmospheres, Philadelphia is the perfect place to call home for work and play.

The University offers a competitive benefits package that includes excellent healthcare and tuition benefits for employees and their families, generous retirement benefits, a wide variety of professional development opportunities, supportive work and family benefits, a wealth of health and wellness programs and resources, and much more.

Posted Job Title
Analytics Engineer

Job Profile Title
Application Developer Senior

Job Description Summary
The Analytics Engineer serves as a critical technical architect within the Advancement Prospect Analytics department, transforming complex institutional data into actionable intelligence. This role bridges the gap between raw data infrastructure and frontline fundraising strategy by designing, building, and maintaining robust data products within a modern cloud-based stack.

Leveraging Snowflake for data warehousing and Salesforce NPSP for relationship management, the incumbent engineers seamless data integrations that empower 18 schools and central DAR staff to identify and engage Penn's most impactful prospects. This position emphasizes a full-stack development philosophy, utilizing GitHub for version control and peer review, Asana and JIRA for

agile project management, and Qlik Cloud, Snowflake and Posit Connect for deploying dashboards and predictive models to support the University's sophisticated fundraising campaigns.

Job Description

Job Responsibilities:

Systems Architecture & Data Engineering

- Lead the design and implementation of scalable, automated data pipelines between Snowflake, Salesforce, and external data sources.
- Develop and optimize complex SQL queries, views, and associated middleware to ensure data integrity and high performance across the advancement ecosystem.
- Architect data models and transformation layers that translate raw data into strategic fundraising tools and actionable insights.

Development Workflow & Governance

- Establish and maintain best practices for code management using GitHub, including branching strategies, pull requests, and documentation-as-code.
- Ensure all analytical scripts (SQL, R, Python) are versioned, audited, and recoverable.
- Implement **CI/CD** (Continuous Integration/Continuous Deployment) principles for analytics to ensure reliable, tested, and automated deployment of data models.

Project Management & Stakeholder Engagement

- Act as a technical project lead by utilizing **Asana** and/or **JIRA** to track milestones, manage backlogs, and communicate project health.
- Coordinate requirements gathering for long-term strategic initiatives, translating complex business needs into technical specifications and transparent project timelines.
- Advise DAR users on the planning, selection, and implementation of data solutions to address specific business requirements.

Advanced Analytics & AI

- Maintain deployment of visualization tools and statistical environments in **Qlik**, **Snowflake** and **Posit**. Leverage **LLMs (proprietary or open-source)** for text processing, such as analyzing donor contact reports or automating prospect bios.
- Monitor application health and provide high-level technical support to users across 18 University schools and centers.

****Please provide a resume and cover letter in order to be considered for this role. Please upload all documents in the "Resume/CV" section of the application prior to submitting.**
Qualifications:

Required Education & Experience:

- Bachelor of Science and 3 to 5 years of experience data engineering, systems analysis, or a related technical field or equivalent combination of education and experience is required.
- Demonstrated proficiency in **Snowflake SQL** and advanced relational data modeling.
- Proven experience with **Git/Version Control** workflows and managing complex task dependencies in **Asana** or **JIRA**.

Preferred Qualifications:

- **Technical Stack:** Experience with **Salesforce NPSP** (Non-Profit Success Pack) and architecting schemas specifically within a Snowflake environment.
- **AI & NLP:** Experience using **LLMs (OpenAI, Anthropic, or open-source equivalents)** for AI-driven text processing and analytics.
- **Programming:** Proficiency in **R or Python** for data mining, statistical inference, and predictive modeling.
- **Domain Knowledge:** Understanding of the Higher Education "Advancement" lifecycle, including Prospect Pipeline management, Annual Giving, and Major Gifts.

Core Competencies:

- **Technical Rigor:** Strong command of Data Integration, CI/CD for analytics, and database reporting structures.
- **Communication:** Exceptional ability in Stakeholder Management and Requirement Gathering; able to explain technical concepts to non-technical fundraisers.
- **Strategy:** Demonstrated expertise in process redesign and systems analysis with the ability to quickly learn and apply emerging technologies.

Key Skills & Tools Summary

- **Platforms:** Snowflake (SnowSQL), Salesforce (NPSP/SOQL), Posit Connect.
- **Tools:** GitHub (Git workflow), Asana/JIRA, Qlik, OpenAI, Anthropic, open source LLM's.
- **Languages:** SQL, R, Python.

Job Location - City, State

Philadelphia, Pennsylvania

Department / School

Development and Alumni Relations

Pay Range

$83,500.00 - $95,000.00 Annual Rate

Salary offers are made based on the candidate's qualifications, experience, skills, and education as they directly relate to the requirements of the position, and in alignment with salary ranges based on external market data for the job's level. Internal organization and peer data at Penn are also considered.

Equal Opportunity Statement

The University of Pennsylvania is an equal opportunity employer. Candidates are considered for employment without regard to race, color, sex, sexual orientation, religion, creed, national origin (including shared ancestry or ethnic characteristics), citizenship status, age, disability, veteran status or any class protected under applicable federal, state or local law.

Special Requirements

Background checks may be required after a conditional job offer is made. Consideration of the background check will be tailored to the requirements of the job.

University Benefits

- **Health, Life, and Flexible Spending Accounts**: Penn offers comprehensive medical, prescription, behavioral health, dental, vision, and life insurance benefits to protect you and your family's health and welfare. You can also use flexible spending accounts to pay for eligible health care and dependent care expenses with pre-tax dollars.
- **Tuition**: Take advantage of Penn's exceptional tuition benefits. You, your spouse, and your dependent children can get tuition assistance here at Penn. Your dependent children are also eligible for tuition assistance at other institutions.
- **Retirement:** Penn offers generous retirement plans to help you save for your future. Penn's Basic, Matching, and Supplemental retirement plans allow you to save for retirement on a pre-tax or Roth basis. Choose from a wide variety of investment options through TIAA and Vanguard.
- **Time Away from Work:** Penn provides you with a substantial amount of time away from work during the course of the year. This allows you to relax, take vacations, attend to personal affairs, recover from illness or injury, spend time with family-whatever your personal needs may be.
- **Long-Term Care Insurance:** In partnership with Genworth Financial, Penn offers faculty and staff (and your eligible family members) long-term care insurance to help you cover some of the costs of long-term care services received at home, in the community or in a nursing facility. If you apply when you're newly hired, you won't have to provide proof of good health or be subject to underwriting requirements. Eligible family members must always provide proof of good health and are subject to underwriting.
- **Wellness and Work-life Resources**: Penn is committed to supporting our faculty and staff as they balance the competing demands of work and personal life. That's why we offer a wide variety of programs and resources to help you care for your health, your family, and your work-life balance.
- **Professional and Personal Development:** Penn provides an array of resources to help you advance yourself personally and professionally.

- **University Resources:** As a member of the Penn community, you have access to a wide range of University resources as well as cultural and recreational activities. Take advantage of the University's libraries and athletic facilities, or visit our arboretum and art galleries. There's always something going on at Penn, whether it's a new exhibit at the Penn Museum, the latest music or theater presentation at the Annenberg Center, or the Penn Relays at Franklin Field to name just a few examples. As a member of the Penn community, you're right in the middle of the excitement-and you and your family can enjoy many of these activities for free.
- **Discounts and Special Services**: From arts and entertainment to transportation and mortgages, you'll find great deals for University faculty and staff. Not only do Penn arts and cultural centers and museums offer free and discounted admission and memberships to faculty and staff. You can also enjoy substantial savings on other goods and services such as new cars from Ford and General Motors, cellular phone service plans, movie tickets, and admission to theme parks.
- **Flexible Work Hours:** Flexible work options offer creative approaches for completing work while promoting balance between work and personal commitments. These approaches involve use of non-traditional work hours, locations, and/or job structures.
- **Penn Home Ownership Services:** Penn offers a forgivable loan for eligible employees interested in buying a home or currently residing in West Philadelphia, which can be used for closing costs or home improvements.
- **Adoption Assistance:** Penn will reimburse eligible employees on qualified expenses in connection with the legal adoption of an eligible child, such as travel or court fees, for up to two adoptions in your household.

To learn more, please visit: https://www.hr.upenn.edu/PennHR/benefits-pay
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To apply, visit https://wd1.myworkdaysite.com/en-US/recruiting/upenn/careers-at-penn/job/FMC-Tower-Development/Analytics- Engineer_JR00116699-1

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