Data Scientist – NYC Department of Homeless Services

About Department of Social Services

The Department of Social Services (DSS) is comprised of the administrative units of the New York City Human Resources Administration (HRA) and the Department of Homeless Services (DHS). HRA is dedicated to fighting poverty and income inequality by providing New Yorkers in need with essential benefits such as Food Assistance and Emergency Rental Assistance. DHS is committed to preventing and addressing homelessness in New York City by employing a variety of innovative strategies to help families and individuals successfully exit shelter and return to self-sufficiency as quickly as possible.

About Street Homeless Solutions

For individuals unwilling to enter the traditional shelter system Street Homeless Solutions provides an array of services to street homeless individuals to assist them off the street and to address mental health, substance abuse, and other issues. The City contracts with nonprofit providers to operate street Outreach Teams, Drop-In Centers and Safe Havens. Outreach teams work in all five boroughs and the subway with unsheltered individuals living on the streets of New York City.

About Information Technology Services

Information Technology Services (ITS) is DSS's technology services organization. Its mission is to support the daily, emergent,

and long-term needs of both agencies. ITS creates and enhances the technology infrastructure and computer applications that support HRA and DHS and develops applications, including a variety of client eligibility and recertification systems, case management systems, housing systems, employment/work engagement services, revenue producing computer matches, claiming systems, and personnel systems.

About StreetSmart

StreetSmart is the City's in-house developed case management system that was built to address the unique business needs of the Outreach providers. StreetSmart has already improved customer service and increased productivity by providing client overview dashboards, search, filtering, and exportable data to generate reports. It also offers robust researching of client details - case management, engagements, placements, health information, and critical incidents. StreetSmart was built in 2016-2017 by a DSS ITS team practicing agile software development and working with a product manager to gather end user requirements in an interactive, ongoing manner, with user-centered design principles articulated by New York City's Civic Service Design Studio (civicservicedesign.com). StreetSmart has been recognized in publications including WIRED, Mashable, Endgadget and Government Technology.

Starting in July, 2019 StreetSmart will be expanded to cover the user needs for Street Homeless Solutions' other two program areas, Drop-In Centers and Safe Havens.

What you'll do

You will work with the Street Homeless Solutions (SHS) Data and Analytics (D&A) Unit, DHS ITS unit, and other divisions within the Department of Social Services to develop and execute a research plan, building on past work. You will lead the efforts to explore trends in the administrative data, communicate insights generated from analysis, and develop predictive models that look at outcome likelihood based on different service usage patterns. You will be work with a small team using one of the most robust datasets about one of the most vulnerable populations, and your contributions will make a meaningful difference in how the city delivers critical services. Work tasks include, but are not limited to the following:

- Develop SQL and Python queries to analyze the completeness and quality of key data elements in StreetSmart, including demographics, caseload history, mental illness diagnoses, and substance abuse details
- Develop and monitor a data cleaning prioritization plan, working with a data analyst dedicated to data cleaning
- Manipulate and analyze administrative data in order to predict outcomes and make data-driven recommendations
- Apply statistical and data mining techniques to conduct performance audits, trend analysis, and predictive analytics using StreetSmart data
- Collaborate with team members to develop novel strategies for technical analysis
- Evaluate ethical implications of design choices for predictive analytics models and automated decision support systems
- Create and present compelling reports to stakeholders based upon project findings and methods

We're looking for a candidate with data science experience to develop predictive analytic models to improve service delivery for NYC Department of Homeless Services' work with street homeless individuals to bring them on the path to stable housing.

We're looking for someone who is quantitative and civic-minded, with outstanding communication and organizational skills. Familiarity with social service programs and NYC government is a plus.

Experience requirements

- 5+ years as a data scientist leading efforts to identify relevant questions, collect data from a multitude of different data sources, organize the information, translate results into solutions, and communicate findings in a way that positively affects decisions
- 5+ years working with SQL, Python, R, Tableau and other data science programing languages and tools
- Strong quantitative and problem-solving skills
- Experience and passion for data wrangling, data cleaning, and ETL
- Experience working with administrative data sets
- Experience with statistical modelling and machine leaning analysis
- Experience with Bayesian analysis
- Proficiency in GIS concepts and software (ArcGIS, Google Maps, QGIS, Carto)
- Attention to detail for documenting work processes and writing clear instructions for technical tasks
- Ability to distill complex material into actionable recommendations
- Excellent written and oral communication skills

To inquire about open positions with the Street Homeless Solutions Lab send an email to: dhsstreetsolutions [at] gmail [dot] com