Role Profile

Job Title:	Data Engineer
Location:	Colindale (Hybrid)
Department:	Insight & Intelligence Hub
Directorate:	Strategy & Innovation
Grade:	Grade J (£48,003 - £53,172)
Type of Working:	Hybrid Working
Reports to:	Insight & Intelligence Manager

1.   Job Purpose:

The Data Engineer will be a member of the Insight & Intelligence Hub, helping us to build a full data capability at Barnet so that we can make better decisions, make more efficient use of technology and better tailor our services to improve outcomes of residents.

The Data Engineer will:
- Help to create business and user value from data by working across the council to undertake significant engineering projects which improve and combine data from back office and customer-facing systems.
- Ensure that our data, and data shared by others, is of high quality and available in such a way that allows it to be exploited as an asset to help service delivery and decision making in line with the principles of UK General Data Protection Regulation (UK GDPR) and with suitable data protection, security, access and sharing agreements in place.
- Build and link data sets so that Data Scientists and Analysts can easily derive insights, including accessing sensitive data in back-office systems, extracting, and loading into our data warehouse or similar environments.
- Design and maintain data pipelines to support AI and machine learning initiatives, ensuring data is accurate, timely, and accessible.
- Work with data professionals to build products and services which deliver continuous insight and value to our staff and improve outcomes for our residents.
- Lead data projects, including leading and managing external suppliers.
- Use the best of modern data technologies and platforms, including ongoing investigation, research and evaluation of emerging technologies, including AI technologies, to assess their applicability to council services.

2.   Key accountabilities:

The postholder will:
- Support, maintain and develop the council's Microsoft Cloud Azure Data Platform
- Build and link data sets so that data professionals/analysts can easily derive insights, including accessing sensitive data in back-office systems, extracting, and loading into appropriate technology.

- Work across the organisation to extract, clean, combine and store data in a way that allows it to be exploited and as an asset to help service delivery and decision making.
- Anonymise data wherever necessary, working within the principles of UK GDPR with suitable data protection and sharing agreements in place.
- Build pipelines and APIs to connect operational systems, data for analytics and business intelligence (BI) systems from hybrid environments i.e., locally hosted, supplier hosted, and Cloud based sources.
- Work with Data Scientists to design and maintain data pipelines to support AI and machine learning initiatives such as predictive analytics, natural language processing and other AI applications.
- Optimise data infrastructure for large-scale datasets used in AI models and decision-making tools.
- Lead a series of data engineering projects in partnership across the council, managing both more junior members and external partners and suppliers to reach our goals. Set direction, lead planning, manage risks and deliver on time and to budget.
- Undertake major programmes of data engineering within business-critical live systems, working with services to understand and improve data quality. This may include purging data in accordance with regulation and internal policy.
- Negotiate with stakeholders at all levels to ensure solutions provided meet both user needs and technical standards
- Provide expertise and guidance at all stages of design and implementation of data workflows
- Liaise and negotiate with wider colleagues to ensure that solutions are realistic, deliverable and achieve project goals.
- Automate currently manual data flows and reports to enable scaling and repeatable use, working with leaders to identify and take advantage of ways to speed up and smooth access to data.
- Write ETL (Extract, Transform, Load) scripts and code to make sure the ETL process performs optimally, leading on extracting data, joining, and helping analysts to derive insights.
- Make major contributions to our data strategy, leading on the development of good standards and practice for data engineering.
- Ensure security and privacy in data handling.
- Prepare and curate datasets for analysis, including feature engineering and data labelling where required.
- Work with colleagues in the Insight & Intelligence Hub and wider Digital and Technology teams to improve the council's approach to joining up data (e.g. improving approaches to geographic data use and gazetteers).
- Work with the Connected Places Team to enable the exploitation of data capability for modern technologies and methodologies (e.g., Internet of Things etc).
- Have technical understanding of the data ecosystem and all its resources. Responsible for the management and administration of the systems and services/components used.
- Work with analysts to build visualisations and reports that can be re-used, and which help improve decision making.
- Optimise code within systems to ensure processes perform optimally.
- Develop reusable components and framework for data workflows to accelerate future data and AI projects.
- Work with data architects to develop "master data."
- Identify ways to improve data reliability, efficiency, and quality.
- Work with a variety of several types of databases e.g., MS SQL, Oracle, Postgres, MySQL.

- Automate currently manual data flows and reports to enable scaling and repeatable use, working with leaders across the council to identify and take advantage of ways to speed up and smooth access to data.
- Undertake data experiments, either through self-motivation or in partnership with others, to learn and to work towards business outcomes.
- Work, store and transmit data in accordance with data protection, Caldicott Guardian, freedom of information systems and confidentiality principles.
- To ensure compliance with the council's information security policies and maintain confidentiality.
- Other responsibilities as determined by line manager

3.   Financial Responsibilities:

No specific budget responsibilities but post holder will be expected to cooperate with and respond to internal audit reviews and implement proper administration of contracts and compliance with financial regulations.

4.   Health and Safety Responsibilities (choose one option):

As an employee of the London Borough of Barnet, you are required to:
- Abide by Barnet's health and safety policy and associated arrangements
- Complete mandatory health and safety training
- Follow safe systems of wok and use devices/guards provided for safety.
- Wear/use personal protection equipment were issued and instructed to do so, including lone working devices.
- Report any Accident/Incidents/Hazards.
- Take care of your own and other's safety, health and wellbeing

5.   Promotion of Corporate Values

To ensure that customer care is maintained to the agreed standards according to the council's values. To ensure that a high level of confidentiality is maintained in all aspects of work. Our values:

Caring / Learning to Improve / Inclusive / Collaboration

6.   Flexibility

In order to deliver the service effectively, a degree of flexibility is needed and the post-holder may be required to perform work not specifically referred to above. Such duties, however, will fall within the scope of the post, at the appropriate grade.

7.   The Council's Commitment to Equality

To deliver the council's commitment to equality of opportunity in the provision of services. All staff are expected to promote equality in the workplace and in the services the council delivers.

PERSON SPECIFICATION

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Criteria	Essential/Desirable	Assessed by:
Professional Membership/Qualification		
• Must be educated to degree (or equivalent) level or relevant experience (MSc in Computer Science, Data Engineering, Mathematics or similar numerical/analytical subject would be desirable)	Essential	Application
Experience & Knowledge		
• In-depth applied knowledge of modern data engineering tools, technologies and practices	Essential	Interview
• In-depth knowledge and experience of using cloud data engineering platforms and products (e.g. Azure Data Factory, Synapse, Spark, Snowflake, DataBricks)	Essential	Interview
• Experience of implementing data lakehouse architecture with role-based access controls aligned to information governance processes	Essential	Interview
• Experience of leading data projects and delivering data products or services	Essential	Interview
• Experience in Extract, Transform and Load processes for large monolithic IT systems, making data usable on modern data platforms	Essential	Interview
• Experience running a production data service	Essential	Interview
• Knowledge of corporate, industry and professional data standards	Essential	Interview

• Knowledge of the evolution of data practices, skills, frameworks and strategy in the UK public sector (e.g. GDS Framework)	Desirable	Interview
• Knowledge of UK GDPR and best data practices (e.g. privacy by design) around the security, protection and use of sensitive information	Essential	Interview
• Proficient in Python to build data pipelines and visualisations	Essential	Interview
• Familiarity with event streaming and near-real-time data processing to support AI use cases	Desirable	Interview
• Knowledge of data visualisation tools such as PowerBI, Tableau etc	Desirable	Interview
• Experience working with multiple complex datasets to derive insights and patterns, including building dashboards and visualisations	Desirable	Interview
• Experience preparing and curating datasets for machine learning (feature engineering, labelling, versioning) and collaborating with data scientists to deploy and monitor models	Desirable	Interview
• An understanding of machine learning techniques and algorithms	Desirable	Interview
• Competent to manage multiple programmes of work	Essential	Interview
• Project management (Prince2 or Agile) or relevant experience of management complex workloads	Desirable	Interview

Skill & Ability

Data and Analytical Skills:

• Proficiency in using query/coding languages such as SQL, Python, R etc	Essential	Interview
• Ability to build data pipelines (Python, SQL, Synapse or Data Factory would be desirable)	Essential	Interview
• Ability to use SQL and NoSQL databases	Essential	Interview
• Knowledge of version control software and methodologies (Git/GitHub would be desirable)	Essential	Interview
• Ability to use metadata management tools and to design and maintain the appropriate metadata repositories	Essential	Interview

• Ability to produce and understand where to use different types of data models	Essential	Interview
• Ability to analyse data, find patterns and derive insights	Essential	Interview
• Ability to build and test data pipelines and products to meet user need	Essential	Interview
• Ability to clean, integrate and scale data sets and pipelines	Essential	Interview
• Ability to model data in a range of ways, including reverse engineering from live production systems	Essential	Interview
• Ability to fix problems in data sets, from low performance to bugs and outages	Essential	Interview
• Ability to write and execute tests to prove and maintain system quality	Essential	Interview
Communicating and Influencing:		
• Can clearly present complex and highly technical issues to non-specialist audiences and individuals to ensure that they can understand the implications to a service	Essential	Interview
• Use a range of communication styles to influence the decisions and actions of others	Essential	Interview
• Communicate with and establish and maintain relationships with other members of the I&I team and other internal service areas	Essential	Interview
• Write and contribute to reports which will be used by others in the development of policies and services to meet the organisation's priorities	Essential	Interview
• Able to provide insight and undertake research to support the delivery of reports that can inform 'best' and 'next' practice	Essential	Interview
• Ability to create clear technical and user documentation (data dictionaries, architectural diagrams etc)	Essential	Interview
Respecting others:		
• To ensure compliance with your responsibilities as laid out in the council's equal opportunity policy and take an active role in promoting and enabling equality of opportunity, promoting the diverse needs and aspirations of Barnet's community,	Essential	Interview

ensuring equality and diversity is mainstreamed in all service/directorate activities		
• Actively champion and promote equality and diversity	Essential	Interview
• Acts on and achieve the promises and commitments made to customers, colleagues, and partners	Essential	Interview
• Demonstrates impartiality and objectivity when taking actions and making decisions	Essential	Interview
Striving for excellence:		
• Demonstrates a high level of personal drive and energy that sets an example to others	Essential	Interview
• Fosters a dynamic, achievement orientated culture	Desirable	Interview
• Manages time and prioritises work to maximise productivity and effectiveness	Essential	Interview
• Consistently striving for improvement	Essential	Interview
• Analysing and identifying issues and problems and finding solutions	Essential	Interview
• Actively seeks out new challenges	Essential	Interview
Setting direction:		
• Keeps abreast of relevant national developments as part of continuous professional development	Essential	Interview
• Develops partnerships with internal and external clients to establish tactical and strategic plans to support the council's business	Essential	Interview
• Encourages a culture of continuous improvement and responsiveness to change	Essential	Interview
• Adapts leadership style to suit the situation	Desirable	Interview
Managing performance:		
• Establish performance standards and effective monitoring of outcomes	Essential	Interview
• Uses performance indicators to proactively improve performance	Essential	Interview
Developing talent:		

• Demonstrates a commitment to own personal development and learning	Essential	Interview
• Actively looking for new challenges and to learn new skills	Essential	Interview
• Ability to provide constructive feedback on strengths and areas for performance improvement	Essential	Interview

Team working:

• Support colleagues within the team by developing, maintaining and documenting standard operational procedures relating to data collection processes, ensuring procedures are accurate and up to date	Essential	Interview
• It may be necessary for the post holder to arrange meetings with colleagues to plan objectives and work commitments for multidisciplinary research, audits and projects	Essential	Interview

Cross Barnet working:

• Comfortable working in cross-functional project teams, including ICT, data engineers, project managers and service area stakeholders	Essential	Interview
• Actively participates in cross-functional networks and groups and promotes own service within these	Essential	Application & Interview
• Displays a clear understanding of the roles and functions of the organisation, and the links between service areas	Desirable	Interview
• Shares knowledge and information for the benefit of others	Essential	Interview
• Has a clear understanding of the political make up and decision making processes of the Council	Desirable	Interview
• Builds strong and positive working relationships with others	Essential	Application & Interview
• Has a clear understanding and broad knowledge of the key functions of the Council	Desirable	Interview

External partnership working:

• Works effectively with representatives of partner organisations including contractors	Desirable	Interview

Values & Behaviours

Caring		
Integrity- I work with candidates and colleagues in a way that builds trust.	Essential	Interview
Empathy- I say "thank you" and "well done" where appropriate, and take time to 'check in' to see if the people I work with are ok	Essential	Interview
Support- I support my colleagues to deliver excellent services. I focus on resolving any issues and capturing lessons learnt	Essential	Interview
Learning to Improve		
Insight- I regularly rely on evidence and professional standards to support my work and decision making.	Essential	Interview
Agile-I am fully empowered to act within the scope of my role	Essential	Interview
Growth Mindset- I take responsibility for my own personal development, growth and learning and support others with their learning and development where I can	Essential	Interview
Inclusive		
Personal Responsibility- I am curious about what is important to others around diversity. I reflect and act upon this curiosity to improve my own understanding	Essential	Interview
Engage with discomfort- I am open to and reflect on what makes me uncomfortable and use my engagement with others to challenge myself and constructively challenge others	Essential	Interview
Champion Diversity- I recognise the advantages and importance of equality, diversity and inclusion in delivering outcomes for residents, and take an active role to ensure they are implemented and integrated in everything I do.	Essential	Interview
Collaborative		
One Team- I actively and purposefully build my network of relationships with people across the Council and with partners. I proactively seek feedback and evidence as a way of learning from and improving the way I work with others	Essential	Interview
Accountable- I accept responsibility for my own actions and decisions, and demonstrate commitment to ensuring these align to what is best for Barnet	Essential	Interview

Outcomes Focused- I adapt my way of working to best suit the outcome we are trying to achieve within the scope of my role and professional standards	Essential	Interview