University of Nottingham
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JOB DESCRIPTION

Position Title:	Assistant Manager, Data Engineering
School/Department:	Strategic Analytics
Employment:	3-year contract
Location:	University of Nottingham Malaysia, Semenyih.
Reporting to:	Manager, Data Engineering
Purpose of role:	The Assistant Manager, Data Engineering is responsible for designing, developing and operating the University's data pipelines and data engineering solutions on Microsoft Fabric, ensuring data from University source systems is reliably integrated, transformed and made available through a secure, scalable and well structured central data platform. The role works across source systems including Registry, Admissions, SRM, NSES, HR, Finance and other University departments, developing and maintaining data pipelines, lakehouse/warehouse structures and data models that support reporting, analytics and data governance across Strategic Analytics. Working under the direction of the Manager, Data Engineer, this role translates data architecture and engineering requirements into robust technical solutions and contributes to platform performance, reliability, security and cost optimisation. The role also supports the development and maintenance of data marts and datasets required by the BI & Analytics function. The role works closely with the BI & Analytics counterpart on semantic model and business glossary alignment, data structures and datasets that support departmental dashboards and analytics. The Assistant Manager Data Engineering is focused on how data is connected, ingested, transformed, modelled and delivered through the data platform. It does not own dashboard design, BI enablement or analytics strategy, which sit with the BI & Analytics Assistant Manager and Strategic Analytics Manager, respectively.

Job Responsibilities:

	Description
1.	**Data Platform Architecture & Engineering** • Design, develop, and maintain the UNM BI platform on Microsoft Fabric, applying medallion architecture (Bronze/Silver/Gold) principles and established data engineering standards. • Develop and maintain data pipelines to integrate data from University source systems, including Registry, Admissions, SRM, NSES, HR, Finance, and other departments, into the central Lakehouse/Warehouse. • Design and develop dimensional data models, including fact and dimension structures, to support downstream semantic models, reporting, and analytics. • Develop, maintain, and optimise ETL/ELT processes, ensuring data is accurately ingested, transformed, validated, and refreshed according to defined schedules and data quality requirements. • Develop and maintain API integrations, web-scraping processes, and flat-file ingestion pipelines to incorporate relevant third-party and external data sources into the UNM BI platform.
2.	**Data Engineering Development** • Support the development and maintenance of data transformation and feature-engineering logic using PySpark notebooks in Microsoft Fabric and Jupyter, ensuring solutions are scalable, sustainable, and efficient for analytical use. • Develop, optimise, and maintain T-SQL code for data warehouse objects, including tables, views, stored procedures, and other database components. • Implement technical data quality checks, validation rules, and exception handling at the pipeline and data-platform layers, in accordance with the Data Quality Framework established by the Data Engineering Lead. • Monitor and investigate data quality and pipeline issues, identify root causes, and implement technical remediation. Escalate issues requiring business or source-system decisions to the appropriate data owner. • Work with the Strategic Analytics Manager to align data transformations and technical implementation with approved data definitions, business rules, and data standards, without owning the business definitions themselves. • Work with the BI & Analytics Assistant Manager to translate dashboard and reporting requirements into appropriate data mart structures, datasets, and data models, ensuring data is fit for downstream BI consumption. • Develop and maintain reusable data engineering components, transformation frameworks, and pipeline patterns to improve development efficiency, consistency, and maintainability across the data platform. • Implement appropriate error handling, logging, monitoring, and audit mechanisms within data pipelines to support operational reliability and traceability. • Optimise data processing, query performance, and pipeline execution to improve platform efficiency, scalability, and cost effectiveness.
3.	**Platform Administration & Operations** • Administer and maintain the University's Microsoft Fabric environment, including capacities, workspaces, deployment configurations, and access controls, in accordance with established platform standards and security policies. • Configure and maintain appropriate data access controls and security mechanisms, including row-level security (RLS) where required, to ensure users have appropriate access to data and analytics resources. • Monitor pipeline execution, data refresh reliability, platform performance, capacity utilisation, and resource consumption; investigate and resolve operational issues and pipeline failures in a timely manner. • Establish and maintain CI/CD, version control, and deployment practices for Fabric artefacts, including pipelines, notebooks, data models, and other data-platform components, to support controlled and repeatable releases. • Implement appropriate monitoring, logging, alerting, and audit mechanisms to support proactive identification of pipeline, data, and platform issues. • Maintain up-to-date technical documentation covering data sources, data flows, pipelines, data models, platform configurations, dependencies, and operational procedures.

	• Implement and maintain backup, recovery, disaster recovery, and business continuity procedures for critical data-platform components, where applicable. • Ensure data-platform solutions comply with University data security policies, access-control standards, PDPA requirements, and other applicable regulatory and information-security requirements.
4.	**Collaboration & Continuous Improvement** • Serve as technical partner to the Strategic Analytics Manager in supporting the advanced analytics and machine learning roadmap, assessing data and platform readiness, technical feasibility, and engineering requirements for predictive and AI-enabled use cases. • Collaborate with the BI & Analytics counterpart to understand evolving data and analytical requirements and translate them into scalable and sustainable data-engineering solutions. • Identify and implement opportunities to automate manual data processes, streamline data workflows, and improve data pipeline efficiency, reducing operational effort and processing time. • Continuously assess and improve platform performance, reliability, scalability, maintainability, and cost efficiency, applying appropriate engineering practices and technologies. • Evaluate and adopt new Microsoft Fabric capabilities, data engineering technologies, and automation approaches where they provide clear value to the UNM BI platform. • Contribute to the development and continuous improvement of data engineering standards, reusable frameworks, development practices, and operational procedures across UNM BI platform. • Stay current with Microsoft Fabric platform developments and evaluate new capabilities for adoption.

Job Requirements:

Specification	Essential	Desirable
Qualifications/ Education	Bachelor's degree in Computer Science, Data Engineering, Information Systems, or related field	
Working Experience	5–7 years of experience in data engineering, data platform engineering, or ETL/pipeline development roles Demonstrated experience building production data pipelines and data warehouse/lakehouse architectures Experience with Microsoft Fabric, Azure Synapse, or an equivalent modern data platform is strongly preferred	Experience in higher education or a similarly decentralised, multi-stakeholder organisation is an advantage
Knowledge and Skills	Strong hands-on proficiency in Microsoft Fabric (Data Factory/pipelines, Lakehouse, Warehouse, OneLake) Advanced SQL and T-SQL, including performance tuning and stored procedure development Strong Python and PySpark skills, including experience with Jupyter/Fabric notebooks Hands-on ETL/ELT pipeline development and data/API integration experience	Experience with cloud data platforms (Azure preferred)

	Experience designing dimensional data models (star schema, medallion architecture) Working knowledge of Power BI semantic models, to support handoff to BI and reporting layers Familiarity with CI/CD practices and version control (e.g. Git, Fabric deployment pipelines) Strong analytical and systems-thinking approach to platform design Ownership mindset for data reliability, performance, and security Ability to work independently on complex technical problems Effective collaborator with non-technical stakeholders when translating requirements into data models	