Position Description

Data Engineer

Classification:	HS5 - HS33
Business unit/department:	Business Intelligence Unit
Work location:	Austin Hospital ☒ Heidelberg Repatriation Hospital ☐ Royal Talbot Rehabilitation Centre ☐Other ☐ (please specify)
Agreement:	Victorian Public Health Sector (Health and Allied Services, Managers and Administrative Officers) (Single Interest Employers) Enterprise Agreement 2021-2025
Employment type:	Fixed-Term Full-Time
Hours per week:	38 (12-month contract)
Reports to:	Manager, Data Science
Direct reports:	N/A
Financial management:	Budget: N/A
Date:	August 2025

Position purpose

This role is jointly funded by the Northeast Melbourne Health Service Partnership and the Eastern Melbourne Public Health Network. The goal is to deliver a predictive algorithm and dashboard for expected wait times on relevant Specialist clinic waiting lists. This role will support that work by automating data pipelines and feature engineering.

About the Directorate/Division/Department

The Business Intelligence Unit is responsible for leveraging data to provide valuable insights that support decision- making, improve operational efficiency, and enhance patient care. The functions of the unit include:

Data integration: Collecting and integrating data from various sources within the hospital, such as electronic health records (EHR) and administrative databases, into a data warehouse. This ensures a comprehensive and unified view of the hospital's operations.

Data analysis and reporting: Analysing healthcare data to generate reports, dashboards, and visualizations. These tools help hospital administrators and clinicians, gain a deeper understanding of key performance indicators (KPIs) related to patient outcomes, resource utilization, and financial performance.

The Business Intelligence Unit has five teams:

1. Data services: Manage the data warehouse and data pipelines.
2. Data Analytics & Reporting: Delivers comprehensive analytical and reporting services across various areas of Austin Health, provides actionable insights and robust reporting solutions to support operational needs.
3. Performance reporting: A second reporting team focussed on whole-of-hospital reporting such as NWAU activity-based reports and monthly board reporting.
4. Data Science: Delivers advanced predictive analytics and research support.
5. Clinical costing: Manages clinical costing data for financial reporting.

Position responsibilities

Role Specific:

- Design and implement data pipelines for ingestion, transformation, and delivery of data to support predictive modelling and integration with clinical systems; ensure data is clean, consistent, and reliable.
- Build, test and deploy predictive models with support from a data scientist.
- Collaborate with the data science and data services teams to understand project requirements and challenges, and deliver optimised data engineering solutions to support their workflows.
- Integrate machine learning predictions: Collaborate with data scientists to embed machine learning models and predictions into production data pipelines, enabling real-time or batch inference as needed
- Proactively monitor and maintain the relevant data engineering environments and resolve all processing issues.
- Work closely with the data services team as needed. Develop pipelines and documentation as directed by the manager of the data services team.
- Ensure quality control of all developed artefacts through rigorous validation and testing.
- Ensure compliance with hospital policies and regulatory standards regarding data privacy, security, and governance

Collaboration and communication

- Partner with the BIU team, clinicians, hospital administrators, and researchers to understand the data infrastructure requirements to support delivery of actionable insights.
- Provide training and mentorship to data scientists, analysts and developers on clinical data engineering best- practices.
- Develop a collaborative and trusted relationship with managers, clinical staff and administrative staff across the organization.
- Work with the BIU team to co-operatively deliver enhanced value from our data and consistently improve our data infrastructure and platform capabilities.
- Engage actively in meetings, working groups, and improvement programs as necessary.
- Liaise with the Austin IT department where required to support data engineering workflows.

Other

- Other duties as required.

Selection criteria

Essential knowledge and skills:

- Experience building data pipelines and infrastructure to support predictive modelling and advanced analytics.
- Strong experience developing and maintaining scalable ETL/ELT pipelines for feature engineering of structured and unstructured data.
- Advanced SQL and Python skills and experience working with large datasets using Spark (e.g., PySpark) and data lake architectures.
- Experience working with cloud data services (e.g., Azure, Databricks) and distributed systems for data storage and processing.
- Proven experience collaborating with data scientists to deploy and operationalize machine learning models within production data pipelines.
- Expertise in designing, developing, and maintaining data warehouses.
- Strong knowledge of relational and non-relational database management systems (SQL Server, Oracle, IRIS, Azure Synapse).
- Experience in source code control using Azure DevOps.

Soft skills and abilities

- Ability to troubleshoot data issues and optimize data pipelines.
- Ability to work with hospital IT, data analysts, warehouse developers, clinicians, and executives.
- Effective communication skills and ability to work cross-functionally with data scientists, analysts, and business stakeholders to deliver data-driven outcomes.
- Experience managing multiple priorities and working in a fast-paced hospital environment.
- Ability to work independently and within a team environment.

Desirable but not essential:

- Familiarity with Electronic Health Records (EHR) systems such as Cerner or TrakCare.
- Knowledge of healthcare data exchange standards: HL7, FHIR, DICOM, ICD-10.
- Experience supporting model serving and integration into downstream applications or clinical systems.
- Experience using JIRA and Confluence.
- Data architecture experience from conceptual data model, logical data model to physical data model.
- Experience with Kimball data modelling techniques (Star Schema, Snowflake Schema, Fact and Dimension Tables).
- Experience with indexing strategies, query optimization, and database partitioning for large datasets.

Professional qualifications and registration requirements

- Tertiary qualifications and/or extensive experience in an appropriate IT, health or business field.

Quality, safety and risk – all roles

Our actions
show we care

We bring
our best

Together
we achieve

We shape
the future

All Austin Health employees are required to:

- Maintain a safe working environment for yourself, colleagues and members of the public by following organisational safety, quality and risk policies and guidelines.
- Escalate concerns regarding safety, quality and risk to the appropriate staff member, if unable to rectify yourself.
- Promote and participate in the evaluation and continuous improvement processes.
- Comply with the principles of person-centered care.
- Comply with requirements of National Safety and Quality Health Service Standards and other relevant regulatory requirements.

Other conditions – all roles

All Austin Health employees are required to:

- Adhere to Austin Health's core values: *our actions show we care, we bring our best, together we achieve, and we shape the future.*
- Comply with the Austin Health's Code of Conduct policy, as well as all other policies and procedures (as amended from time to time).
- Comply with all Austin Health mandatory training and continuing professional development requirements.
- Provide proof of immunity to nominated vaccine preventable diseases in accordance with Austin Health's immunisation screening policy.
- Work across multiple sites as per work requirements and/or directed by management.

General information

Cultural safety
Austin Health is committed to cultural safety and health equity for Aboriginal and/or Torres Strait Islander People. We recognise cultural safety as the positive recognition and celebration of cultures. It is more than just the absence of racism or discrimination, and more than cultural awareness and cultural sensitivity. It empowers people and enables them to contribute and feel safe to be themselves.

Equal Opportunity Employer
We celebrate, value, and include people of all backgrounds, genders, identities, cultures, bodies, and abilities. We welcome and support applications from talented people identifying as Aboriginal and/or Torres Strait Islander, people with disability, neurodiverse people, LGBTQIA+ and people of all ages and cultures.

Austin Health is a child safe environment
We are committed to the safety and wellbeing of children and young people. We want children to be safe, happy and empowered. Austin Health has zero tolerance for any form of child abuse and commits to protect children. We take allegations of abuse and neglect seriously and will make every effort to mitigate and respond to risk in line with hospital policy and procedures.

Our actions
show we care

We bring
our best

Together
we achieve

We shape
the future

austin.org.au