JOB DESCRIPTION

JOB DETAILS	
Job Title	Artificial Intelligence and Data Science Specialist
Reports to	Senior Project Manager (AI & Digital Transformation)
Band	7 (subject to matching)
Department/Directorate	Transformation

JOB PURPOSE

The AI & Data Science Specialist will act as the technical expert within the AI & Digital Transformation team, providing hands-on capability in AI, data science, and automation. Reporting to the Senior Project Manager, the postholder will enable the team to design and deliver in-house proofs-of-concept (PoCs) and automation solutions, ensuring the Trust moves from strategy into practical development and testing of innovations that improve patient care and operational efficiency.

They will lead the technical delivery of AI PoCs, including data preparation, model development, and evaluation, using tools such as Python, R, SQL and machine learning frameworks. The role also involves designing and implementing automation solutions such as RPA, scripting, and workflow optimisation to generate measurable early savings. Working closely with the Royal Devon Data Architecture and BI teams, the postholder will ensure alignment with governance standards, Epic Caboodle, and the NHS Federated Data Platform, producing fully documented, safe, and scalable solutions that build organisational confidence in AI adoption.

KEY RESULT AREAS/PRINCIPAL DUTIES AND RESPONSIBILITIES

- Lead the end-to-end technical development of AI and machine-learning proofs-of-concept, including data preparation, model development, evaluation, and creation of scalable demonstrators.
- Apply advanced data science methods to explore datasets, generate insights, and develop reproducible analytical workflows, dashboards, and visualisations for diverse stakeholders.
- Design, build, and implement automation solutions (e.g., RPA, scripting, workflow optimisation) to deliver measurable efficiency gains and reduce manual workload.
- Work closely with Data Architecture, BI, and Digital teams to ensure all solutions align with governance, interoperability standards, Epic Caboodle, and the NHS Federated Data Platform.
- Engage with clinical, operational, and corporate stakeholders to understand requirements, translate needs into technical solutions, and provide expert advice on AI, data science, and automation.
- Ensure all AI and automation outputs are safe, reliable, and compliant, through robust testing, validation, documentation, and adherence to Trust and NHS AI assurance frameworks.
- Contribute to continuous improvement and innovation, staying up to date with emerging technologies, developing reusable code and templates, and supporting the Trust's AI roadmap.
- Build capability within the team by providing training, mentoring, and technical guidance, and completing all required Epic courses and certifications within 6 months of appointment.

KEY WORKING RELATIONSHIPS

Areas of responsibility: in house proofs of concept (PoCs) and automation solutions

No. of Staff reporting to this role: 0

The post holder is required to deal effectively with staff of all levels throughout the Trust, the wider healthcare community, external organisations and the public. This will include verbal, written and electronic media.

Of particular importance are working relationships with:

Internal to the Trust	External to the Trust
• Operational Management Teams • Executive Directors • Clinicians & Ward staff • Epic technical experts e.g. Cogito, • EPR • Clinical Coding • Information Governance • Finance • Data Quality	• Wider Devon ICS Partners – Providers, Local Authority and ICB • External Suppliers/ consultants • Other NHS Trusts • NHS England • Department of Health and Social Care • Trade Unions

ORGANISATIONAL CHART
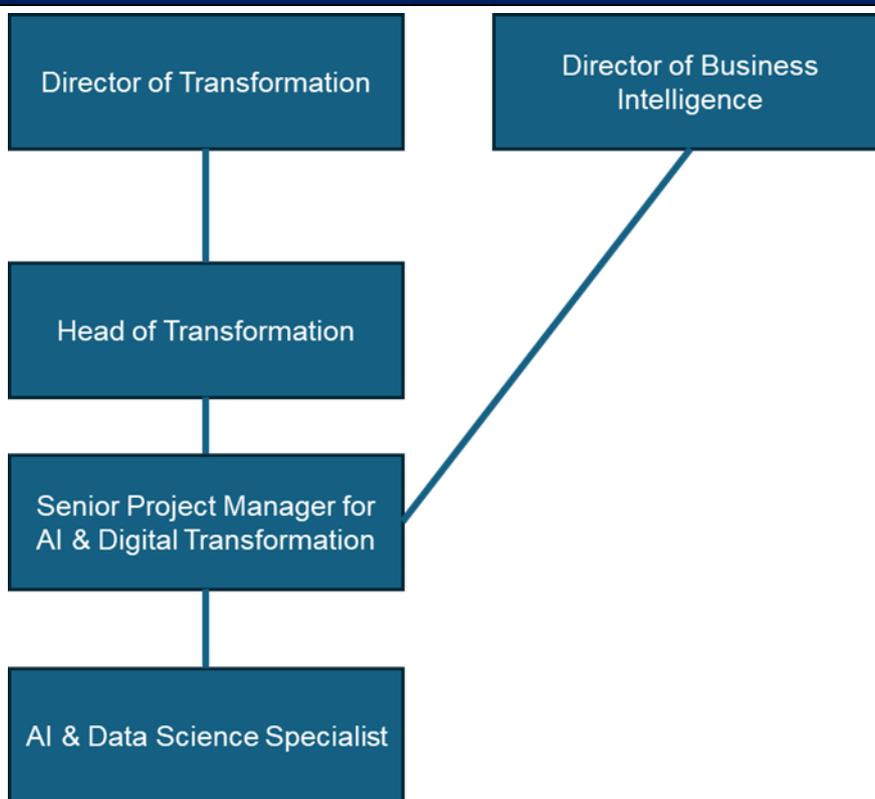
FREEDOM TO ACT

- The post holder will work to achieve agreed objectives, and will have the freedom to execute these duties in their own way, acting within broad professional policies.
- The post holder will lead various areas of work and will regularly advise organisational staff on information issues without reference to line manager.
- The postholder will contribute to the setting of standards for staff within this area and working with their line managers to establish how professional and administrative policies and national guidance should be interpreted and implemented. They will have responsibility for implementing these changes, but the standards and interpretation is completed by the senior management of Transformation.

COMMUNICATION/RELATIONSHIP SKILLS

- Communicate effectively with project stakeholders across clinical, operational, and corporate teams to ensure shared understanding of AI, data science, and automation workstreams.

- Present complex technical information, including analytical findings, model performance, risks, and limitations, in a clear and accessible way for non-technical audiences.
- Build and maintain productive working relationships with colleagues in Data Architecture, BI, Digital, and clinical services to support collaborative delivery of AI and automation initiatives.
- Engage with service teams to understand requirements, gather feedback, and translate needs into technical specifications and deliverables.
- Provide clear, concise updates on project progress, risks, and dependencies to the Senior Project Manager for AI & Digital Transformation and other relevant programme leads.
- Contribute to reports, presentations, and documentation for programme boards, steering groups, and Trust wide forums as required.
- Use strong communication and influencing skills to support change management activities, helping teams understand the benefits, implications, and safe use of AI and automation solutions.
- Facilitate constructive discussions between technical and non-technical stakeholders, supporting problem solving, addressing concerns, and challenging assumptions where appropriate.
- Work collaboratively with system partners, including other NHS organisations and regional data/AI networks, to share learning and ensure alignment with wider digital transformation priorities.

ANALYTICAL/JUDGEMENTAL SKILLS

- Analyse complex and sometimes incomplete or conflicting datasets to support the development of AI PoCs, automation solutions, and analytical outputs.
- Apply advanced data science techniques to explore data, identify patterns, assess model performance, and generate evidence-based recommendations.
- Evaluate multiple technical options (e.g., model architectures, data preparation approaches, automation tools) and make informed recommendations to the Senior Project Manager for AI & Digital Transformation.
- Contribute analytical insight to project plans, business cases, and technical proposals, ensuring decisions are grounded in robust evidence.
- Ensure all AI and automation work complies with Trust policies, information governance requirements, and relevant NHS AI assurance frameworks.
- Support the implementation of project controls by contributing to planning, reporting, risk identification, and quality assurance activities.
- Identify risks and issues related to data quality, model reliability, automation safety, and technical feasibility, escalating appropriately and proposing mitigation strategies.
- Analyse a wide range of complex data sources, including operational, clinical, and performance data, to inform solution design and evaluate impact.
- Undertake detailed analytical work to support service improvement, workflow optimisation, and the development of digital transformation initiatives.
- Presen complex technical information clearly and persuasively, adapting communication to suit technical and non-technical audiences.
- Maintain awareness of emerging AI, data science, and automation developments to support informed decision-making and horizon scanning within the team.

PLANNING/ORGANISATIONAL SKILLS

- Plan and coordinate AI, automation and analytical work, managing multiple interdependent tasks and tailoring the approach according to the complexity of the project.
- Scope technical requirements with stakeholders, defining deliverables, timelines, dependencies and resource needs, while advising on feasibility within NHS governance and operational constraints.
- Monitor progress and adapt plans in response to changing priorities, risks, data issues or external factors, clearly communicating the impact on timelines and outcomes.
- Maintain structured documentation, version control and reproducible workflows to ensure continuity, transparency and effective delivery when plans evolve.

PATIENT/CLIENT CARE

- Incidental contact with patients

- Contribute to the development of a culture of continuous improvement to deliver improved quality and delivery of patient care and related services by effectively deploying and leveraging digital and AI tools.

POLICY/SERVICE DEVELOPMENT

- Contribute to and design policies which impact beyond own area of activity for example good practice policies and procedures that are implemented Trust-wide in relation to healthcare analytics and reporting.

FINANCIAL/PHYSICAL RESOURCES

- The post has no direct budgetary responsibilities
- Responsible for monitoring productivity within teams to support with efficient use of resources
- Provide demand and capacity monitoring which has impact on budget setting process for other services

HUMAN RESOURCES

- Provide day-to-day supervision of junior analysts, apprentices or trainees within the AI & Data Science team, including work allocation, review of outputs, and monitoring progress against agreed objectives.
- Undertake appraisals and support personal development planning, identifying training needs and contributing to skills development across the team.
- Participate in recruitment and selection processes for technical roles, including shortlisting and interview panels, and support the induction of new staff.
- Address initial stages of performance, conduct, or attendance matters in line with Trust policies, escalating complex issues to senior management as appropriate.

INFORMATION RESOURCES

- Work with clinical, operational, and corporate teams to understand information requirements, advising on data availability, appropriate analytical approaches, and limitations.
- Extract, clean, and prepare data from a range of Trust systems — including clinical, operational, and administrative sources — ensuring accuracy, consistency, and reproducibility.
- Manipulate and analyse data using appropriate tools (e.g., Python, R, SQL, BI platforms) and present results in clear, user-friendly formats tailored to audience needs.
- Ensure analytical outputs are validated against other sources where possible, identifying discrepancies and resolving data quality issues in collaboration with relevant teams.
- Contribute to the development of datasets, dashboards, and analytical assets used for internal reporting, AI PoCs, automation solutions, and performance monitoring.
- Support the creation of bespoke data collection or analytical solutions where existing systems do not meet project requirements, ensuring alignment with governance and data architecture standards.
- Work collaboratively with the Data Architecture and BI teams to maximise the use of the Trust's data warehouse, Epic Caboodle, and other enterprise data platforms.
- Assist with data quality assurance activities, including testing new or enhanced data systems, pipelines, and software to ensure they are fit for purpose.
- Maintain and update technical documentation, code repositories, and data dictionaries to ensure transparency, replicability, and continuity across the team.
- Take responsibility for specific analytical tools, scripts, or datasets as agreed with the Senior Project Manager, including managing access, version control, and security considerations.
- Ensure all information outputs meet agreed deadlines, are accessible to users, and comply with Trust information governance and data protection standards.
- Responsible for ensuring the correct use of departmental datasets in accordance with sound information management practices to avoid corruption of data or inappropriate access and use.

RESEARCH AND DEVELOPMENT

- Contribute to the design and delivery of AI and automation proofs-of-concept, applying research-led methods and evaluating emerging technologies for their relevance to Trust priorities.

- Undertake exploratory data analysis, model experimentation, and technical prototyping to test hypotheses and generate evidence for potential digital innovations.
- Support the development of reusable code, documentation, and analytical frameworks to strengthen the Trust's capability for ongoing research, evaluation, and continuous improvement.

PHYSICAL SKILLS

- Advanced keyboard skills
- Be proficient in the use of Microsoft Office (PowerPoint, Word, Excel, Outlook & Teams)

PHYSICAL EFFORT

- Carry out tasks involving a mixture of sitting, standing and walking

MENTAL EFFORT

- Regularly and frequently required to concentrate for long periods of time when analysing reports, preparing policy and strategy documents, interpreting policy etc.
- Concentration required when analysing IM&T issues, unpredictable interruptions to answer queries from colleagues.

EMOTIONAL EFFORT

- Infrequent exposure to health and treatment information relating to individuals the postholder may know.
- Moderate exposure to emotional or distressing circumstances linked to day-to-day supervision role, such as conduct, absence, and performance management issues.

WORKING CONDITIONS

- Office based with visits to various hospital locations and national / regional events as required.
- VDU use.

OTHER RESPONSIBILITIES

Take part in regular performance appraisal.

Undertake any training required in order to maintain competency including mandatory training, e.g. Manual Handling

Contribute to and work within a safe working environment

You are expected to comply with Trust Infection Control Policies and conduct him/herself at all times in such a manner as to minimise the risk of healthcare associated infection

As an employee of the Trust, it is a contractual duty that you abide by any relevant code of professional conduct and/or practice applicable to you. A breach of this requirement may result in action being taken against you (in accordance with the Trust's disciplinary policy) up to and including dismissal.

You must also take responsibility for your workplace health and wellbeing:
- When required, gain support from Occupational Health, Human Resources or other sources.
- Familiarise yourself with the health and wellbeing support available from policies and/or Occupational Health.
- Follow the Trust's health and wellbeing vision of healthy body, healthy mind, healthy you.
- Undertake a Display Screen Equipment assessment (DSE) if appropriate to role.

GENERAL

This is a description of the job as it is now. We periodically examine employees' job descriptions and update them to ensure that they reflect the job as it is then being performed, or to incorporate any changes being proposed. This procedure is conducted by the manager in consultation with the jobholder. You will, therefore, be expected to participate fully in such discussions.   We aim to reach agreement on reasonable changes, but if agreement is not possible, we reserve the right to insist on changes to your job description after consultation with you.

Everyone within the Trust has a responsibility for, and is committed to, safeguarding and promoting the welfare of vulnerable adults, children and young people and for ensuring that they are protected from harm, ensuring that the Trusts Child Protection and Safeguarding Adult policies and procedures are promoted and adhered to by all members of staff.

At the Royal Devon, we are committed to reducing our carbon emissions and minimising the impact of healthcare on the environment, as outlined in our Green Plan available on our website. We actively promote sustainable practices and encourage colleagues to explore and implement greener ways of working within their roles.

PERSON SPECIFICATION

Job Title	Artificial Intelligence and Data Science Specialist

Requirements	Essential	Desirable
QUALIFICATION/ SPECIAL TRAINING		
• Masters degree level or equivalent experience in Data Science	X	
• Epic Certification in appropriate reporting modules		X
• Prince 2 Foundation		X
KNOWLEDGE/SKILLS		
• Specialist knowledge of information analysis, in particular, of patient activity and use of information across the NHS acquired through relevant senior analytical and managerial experience	X	
• Advanced skills in report development using an enterprise reporting tool (eg Crystal, Tableau, MS Power BI, Business Objects)	X	
• Advanced SQL skills, including advanced querying and report writing	X	
• Demonstrate ability to interpret highly complex data and effectively present highly sophisticated analysis and findings	X	
• Knowledge of NHS clinical systems	X	
• Extensive knowledge of NHS Information standards	X	
• Possess excellent analytical and numeracy skills	X	
• Advanced Proficiency in MS Office	X	
• Ability to apply information intelligence to data and present complex information to multidisciplinary audience	X	
• Excellent oral and written communication skills and a good personal presence	X	
• Ability to effectively liaise with a variety of staff across all grades	X	
• Knowledge of strategic developments in health informatics and particularly related to SCCI and the National Information Board and NHS England	X	
• Extensive knowledge of NHS Commissioning information	X	
• Exceptional ability to plan, prioritise work and manage deadlines	X	
• Knowledge of programming languages (Python, R, SQL)	X	
EXPERIENCE		
• Proven NHS experience at senior manager level in an information analyst role		X
• Good working knowledge of operational practice in an acute NHS setting		X
• Proven experience of working alongside clinicians and senior managers within the NHS	X	
• Experience of managing 3rd party suppliers to delivery of complex work packages	X	
• Experience of complex implementations requiring minimum disruption to end users	X	
• Experience of Stakeholder Management	X	
• Prior experience of interpreting technical & professional IM&T policies, for non-technical staff	X	
PERSONAL ATTRIBUTES		
• Able to prioritise tasks, work on own initiative and manage own workload	X	
• Excellent communication skills both written and verbal	X	
• Proven experience in the ability to interact with personnel at all levels both clinical and non-clinical within healthcare	X	
• Be enthusiastic, responsive to new demands, willing to learn new skills and welcome change	X	

• Demonstrate the ability to plan and organise effectively	X	
• Excellent interpersonal skills and professional presentation	X	
• Ability to produce and deliver, or receive and process, detailed complex and highly sensitive information	X	
• Self-motivated and able to take responsibility for decisions	X	
• Has good insight and the ability to respond well to constructive criticism	X	
• Team player	X	
• Logical and pragmatic approach to problem solving	X	
• Proven ability to work under significant pressure with competing priorities	X	
• Personal credibility, with ability to quickly gain the confidence of others	X	
• Honesty, openness and integrity	X	
OTHER REQUIRMENTS		
• Occasional requirement to travel to other sites as required.	X	
• The post holder must demonstrate a positive commitment to uphold diversity and equality policies approved by the Trust.	X	

		FREQUENCY			
		(Rare / Occasional / Moderate / Frequent)			
WORKING CONDITIONS / HAZARDS		R	O	M	F
Hazards/ Risks requiring Immunisation Screening					
Laboratory specimens	N				
Contact with patients	N				
Exposure Prone Procedures	N				
Blood/body fluids	N				
Hazard/Risks requiring Respiratory Health Surveillance					
Solvents (e.g. toluene, xylene, white spirit, acetone, formaldehyde and ethyl acetate)	N				
Respiratory sensitisers (e.g. isocyanates)	N				
Chlorine based cleaning solutions (e.g. Chlorclean, Actichlor, Tristel)	N				
Animals	N				
Cytotoxic drugs	N				
Risks requiring Other Health Surveillance					
Laser (Class 3R, 3B, 4)	N				
Dusty environment (>4mg/m3)	N				
Noise (over 80dBA)	N				
Hand held vibration tools (=>2.5 m/s2)	N				
Other General Hazards/ Risks					
VDU use (> 1 hour daily)	Y				Y
Heavy manual handling (>10kg)	N				
Driving	N				
Food handling	N				
Night working	N				
Electrical work	N				
Physical Effort	Y	Y			
Mental Effort	Y				Y
Emotional Effort	Y	Y			
Working in isolation	Y	Y			
Challenging behaviour	N				