Artificial intelligence (AI) Engineer – Job Description

Role Purpose:

To design, develop and improve software, utilising various AI engineering methodologies, that provides business, platform, and technology capabilities for our internal and external customers. Lead AI projects across a wide range of domains, tailoring approaches to the needs of users and stakeholders. Support the definition of the technical vision, strategy and delivery of GenAI solutions, developing and maintaining the technical roadmap and architecture.

Key Responsibilities:

- Embrace and role model the desired behaviours to exemplify our Company values, promoting an ethical, positive company culture.
- To maintain consistent and documented compliance with all relevant Safety, Health and Environmental (SHE), Good Manufacturing Practice (GMP), Data Integrity (DI), quality and best practice requirements.
- Build GenAI applications using Python to automate workflows for scalable AI deployment.
- Apply multi-agent AI systems to real-world problems for enhanced decision-making in commercial environments.
- Transition GenAI prototypes to production using LangGraph/AutoGen/CrewAI/Bedrock… to ensure reliability for enterprise use.
- Integrate agentic frameworks like Autogen, Crew.ai, LangChain, or LlamaIndex to orchestrate intelligent agents for complex task execution.
- Design data architectures to manage large-scale structured and unstructured datasets for high-performance AI/ML solutions.
- Develop multi-modal LLM applications using text, vision, and speech models for enriched user experiences.
- Fine-tune small and medium LLMs to domain-specific datasets for improved relevance and accuracy for specific domains.
- Implement continuous training pipelines to update LLMs for evolving business needs and data inputs.
- Apply reinforcement learning algorithms like PPO, GRPO, GPO... to optimize model behavior for dynamic environments.
- Evaluate LLM performance using tailored metrics to validate effectiveness for agentic use cases.
- Develop AI strategies to align technical capabilities with CPI's business objectives for long-term growth.
- Design and maintain AI infrastructure to optimize efficiency, cost, and security for enterprise operations.
- Assess AI applications across CPI to ensure they are fit-for-purpose for digital transformation initiatives.
- Analyze supplier and customer requirements to guide solution design for successful project delivery.
- Define best practices to embed AI use cases into new and existing projects for maximum impact.
- Collaborate with IT and technical teams to optimize infrastructure for delivering key business outcomes.
- Enforce data governance standards to protect integrity and security for regulatory compliance.

- Monitor emerging AI technologies to identify opportunities for innovation for CPI's strategic advantage.
- Conduct horizon scanning to recommend new tools and frameworks for improving AI architecture.
- Support policy development to establish governance procedures for responsible AI adoption.
- Oversee AI project implementation to ensure alignment with best practices for operational excellence.
- Partner with Legal and Procurement teams to validate AI solutions for compliance and effectiveness.
- Share AI knowledge to upskill teams for broader organizational capability.
- Translate technical requirements to business needs for cross-functional stakeholder engagement.
- Act as subject matter expert to guide AI adoption for diverse business units.

Good Manufacturing Practice - GMP

CPI have a responsibility to manufacture medicinal products of the requisite quality, fit for their intended use and be in accordance with the relevant Manufacturing and Marketing Authorisations, Clinical Trial Authorisation, Product Specification, Drug Master File or CEP Dossier as appropriate and which do not place patients at risk due to inadequate safety, quality or efficacy. The Pharmaceutical Quality System, which incorporates Good Manufacturing Practice, is designed to deliver this quality objective, the attainment of which requires the participation and commitment of all staff across departments and at all levels within the company.

Good Manufacturing Practice is the part of Quality Management which ensures that products are consistently produced to the correct quality standards. To comply with the principles of GMP, it is required that clearly defined procedures are adhered to when performing operations across CPI.

Data Integrity - DI

Data Integrity is the degree to which data are complete, consistent, accurate, trustworthy, reliable and that these characteristics of the data are maintained throughout the data life cycle. The data should be collected and maintained in a secure manner, so that they are attributable, legible, contemporaneously recorded, original (or a true copy) and accurate. Assuring data integrity requires appropriate quality and risk management systems, including adherence to sound scientific principles and good documentation practices.

CPI, as a GXP organisation, have developed a Pharmaceutical Quality System, which incorporates a DI Governance System – a series of arrangements to ensure that data, irrespective of the format in which they are generated, are recorded, processed, retained and used to ensure the record throughout the data lifecycle.

To comply with the principles of DI, it is required that clearly defined procedures are adhered to when performing operations across the site. All staff are actively encouraged/supported in the reporting of errors, omissions and undesirable results.

Direct reports: No direct reports

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Person specification

Education / Qualifications:

Essential:	Desirable:
Educated to Degree level (or equivalent) in a Computer Science, IT or related field, and relevant cloud certifications.	Educated to Masters Degree level (or equivalent) in a Computer Science, IT or related field.

Competencies and behaviours	
Leadership (Influencing)	**Decision Making (Influencing)**
• Promotes commitment to our PRIDE values, strategy, vision, and direction. • Motivates, inspires, and builds resilience in others by making the vision shareable by everyone, and ensuring that teams are purposefully empowered to work efficiently. • Rewards and celebrates success with colleagues and teams. • Future proofs work practices. • Trusts others' judgment and demonstrates radical thinking, including a willingness to try new things, even at the risk of failure.	• Confidently draws reliable conclusions from diverse and sometimes incomplete data. • Proactively sources and refers to how others have tackled similar problems previously. • Considers risks, and consequences, and takes accountability for, the impact the decision has on the business including costs/ benefits. • Thinks ahead, ensuring that the potential of teams and projects are unlocked and making future focused decisions.
Communication (Influencing)	**Developing self and others (Influencing)**
• Comfortably employs a wide range of communication styles and approaches to suit different situations and audiences (external and internal stakeholders) in diverse situations. • Builds effective two-way communication channels within the business area and across departments whilst maintaining credibility and securing commitment.	• Assesses the skills and competence of others within the organisation and recommends development activities. • Brings diverse people together for collaboration, ensuring that employees are open to new ideas and effective collaboration. • Gives performance feedback in a timely manner on an informal basis regularly. • Actively shares expertise and learning across the organisation. • Takes personal accountability for success or failure of direct reports.

Collaboration (Influencing)	Delivery (Guiding)
• Blends people into teams, leveraging the use of talents available from any part of the organisation that result in the most innovative solution. • Fosters a sense of energy, ownership, and personal commitment to collaborative work, ensuring that diverse people can collaborate openly and honestly as one team even with differing views and perspectives. • Understands the priorities and deeper needs of different stakeholders' groups, being sensitive to different experiences. • Supports and enables people to work together to meet objectives.	• Demonstrates the ability to prepare, gain approval of, refine and update business cases that justify the initiation of a project. • Displays the ability to manage stakeholders, taking account of their levels of influence and particular interests. • Ensures actions and decisions within the team are aligned with CPI's priorities. • Anticipates how team objectives must adapt and stretch to respond to change.

Knowledge and Experience:

Essential:	Desirable:
• Demonstrable expertise in AI and at least two related platforms like Crew.ai, LangGraph, AutoGen, AWS-Bedrock, Copilot Studio, Azure AI Foundry Etc • Strong knowledge of prompt engineering, LLM applications developments and optimizations, LLM fine-tuning – Reinforcement Learning, DPO, PPO, GRPO..., and cloud computing principles. • Demonstrate high levels of proficiency in Python and/or TypeScript, C# and common ML libraries (e.g., TensorFlow, PyTorch, scikit-learn) • Excellent problem-solving, communication skills, and the ability to gather requirements	Experience with federated learning systems Experience with connecting cloud to real-time control services (e.g. AWS IoT) Microsoft Azure, Google Cloud, AWS Proven experience with ETL tools, API management, and cloud application architecture. Understanding of data security, compliance, and governance. Ensure data pipelines are secure, compliant, and performant at scale. Demonstrate designing and building scalable and resilient cloud solutions. Experience with automation tools, MLOps, DevOps practices like CI/CD, infrastructure as code, Etc

• Demonstrate design of semantic search and retrieval strategies to maximise accuracy and relevance of generative AI responses. • Design and execute fine-tuning and evaluation of foundation models for domain-specific use-cases • Package and deploy models into scalable inference endpoints (REST/gRPC APIs, containerised environments, Triton, HuggingFace Inference, Ray Serve, Kubernetes) • Demonstrated deep understanding of vector databases, embeddings, and semantic search.	

Signature of Job Holder By signing this you confirm you have read, understood, and agree to work in alignment with the above job description.	
Printed name **Signature** **Date**	