KEY TERMINOLOGY

Below is a glossary of key terms in the subject of AI.

AI	AI is the use of digital technology to mimic human intelligence to 'learn' how to perform a given task by analysing big data (See also **Machine Learning** and **Deep Learning**). AI helps computers to identify patterns, make predictions, solve problems and even learn from their own mistakes
Algorithm	A process or set of instructions that can be used by a human or a computer to solve a problem or perform an activity
Big data	In the healthcare setting, Big Data is used to describe the extensive healthcare databases (like electronic health record systems) or networks of interconnected healthcare databases (called 'linked' databases) coming from multiple organisations. See also **The Three Vs**
Consent	To give permission for something to happen or agreement to do something. This can be given verbally or in writing. Usually, medical staff do not need your permission to record information about a patient as it is important for their care (**implied consent**). If a patient's confidential information is used for purposes beyond their individual care, their **explicit consent** will be needed. However, under GDPR, certain exceptions exist for using health data for specific secondary purposes, such as research, where patient consent might not be required.
Deep Learning	A subset of **Machine Learning** that uses large **Neural Networks** and big data to better solve complex problems. It creates an adaptive system to allow computers to 'learn' from their mistakes
EHDS	**European Health Data Space:** an EU initiative designed to offer patients access to their own health data in electronic format immediately and at no cost, with the ability to share data with health professionals within the EU and cross-border (primary use) & facilitate the use of such data for research and innovation purposes
Federated data	Federated datasets allow data to stay in the place they are produced to avoid unsafe transferral to other areas
FAIRified data	**FAIRification** is based on the concept of data being Findable, Accessible, **Interoperable** and Reusable to allow data to be used in a **Federated** manner
Homomorphic encryption	An encryption technology designed to enhance privacy
Interoperability	Issuing information in a common format so it can be easily exchanged and made use of
Machine learning	A subset of AI that involves machines 'learning' from patterns of data or previous tasks and improving their performance
Neural network	A type of machine learning process that uses interconnected nodes to teach computers to process data in a way that is inspired by the human brain
The Three Vs (in the context of big data)	**Volume, velocity and variety:** these are seen as a way to define and measure big data and to understand how it differs from 'old-fashioned' data