

Table S1. Definitions of different artificial intelligence algorithms.

Artificial intelligence algorithms	Definition	Examples of application in colonoscopies
Artificial intelligence ^a	A machine or algorithm that is programmed to mimic human cognitive functions, such as learning and problem solving.	
Machine learning ^b	A subset of AI that involves building models that can learn and make independent predictions based on provided data. It continually improves itself using learned data without human intervention (e.g. the YouTube home page recommendation systems)	Software is trained using large numbers of images of polyps and normal tissue to allow the machine to discern normal from abnormal mucosa.
Neural networks ^c	A type of machine learning with models that mimic the human brain and comprise multiple preceptors that process and transmit information on patterns (e.g. convolutional neural networks that use image recognition software such as Google Lens)	Neural networks are trained on millions of manually annotated colonoscopy images. It then processes each frame of the colonoscopy video feed and highlights the region as a polyp when the mucosa has features consistent with polyps.
Deep learning ^d	A type of machine learning that involves multiple layers of large neural networks that use representation-based learning methods for classification (e.g. computer-aided detection [CAdE] systems like GI Genius).	CAdE software is automatically trained to learn to identify features of polyps without humans needing to manually identify them.
Large language models ^e	A subset of machine learning designed to specifically learn from large volumes of textual data to process grammar, semantics, and contextual use of human language (e.g. ChatGPT).	

^a Bajwa J, Munir U, Nori A, et al. Artificial intelligence in healthcare: transforming the practice of medicine. Future Healthc J 2021;8:e188-94.

^b Sarker IH. Machine Learning: Algorithms, Real-World Applications and Research Directions. SN Comput Sci 2021;2:160.

^c Han SH, Kim KW, Kim S, et al. Artificial Neural Network: Understanding the Basic Concepts without Mathematics. Dement Neurocognitive Disord 2018;17:83-9.

^d Sarker IH. Deep Learning: A Comprehensive Overview on Techniques, Taxonomy, Applications and Research Directions. SN Comput Sci 2021;2:420.

^e Meng X, Yan X, Zhang K, et al. The application of large language models in medicine: A scoping review. iScience 2024;27:109713.