

Supplementary Table 5: Artificial intelligence studies on emergency medicine education

Classification	Article title	Author	Year	Country	AI method	AI models & implementation tools
Simulation-Based Learning, Serious Games and Gamification	Development and evaluation of an emergency department serious game for undergraduate medical students Gamified	Aster et al.	2024	Germany	DL	StyleGAN
Simulation-Based Learning, Serious Games and Gamification	Crowdsourcing as a Novel Approach to Lung Ultrasound Data Set Labeling	Duggan et al.	2024	USA	N/A	N/A
Educational Content Development and Effectiveness Analysis	Analyzing the Effectiveness of AI-Generated Patient Education Materials Using Natural Language Processing to Evaluate the Quality of Supervisor Narrative Comments in Competency-Based Medical Education The Revival of Essay-Type Questions in Medical Education: Harnessing Artificial Intelligence and Machine Learning Performance of ChatGPT in emergency medicine residency exams in Qatar	Karnan et al.	2024	International	LLM	ChatGPT-3.5, Google Gemini, QuillBot,
Evaluation and Feedback Systems		Spadafore et al.	2024	Canada	NLP	Bio-ClinicalBERT, Deep Learning
Evaluation and Feedback Systems		Shamim et al.	2024	Pakistan	LLM	ChatGPT-3.5
Evaluation and Feedback Systems		Iftikhar et al.	2024	Qatar	LLM	ChatGPT-4
Evaluation and Feedback Systems		Misra et al.	2024	USA	LLM	ChatGPT-4

Examinations

Evaluation and Feedback Systems	Chat-GPT Comparing large language model artificial intelligence and faculty rankings of competitiveness	Schnapp et al.	2024	USA	LLM	ChatGPT-4o
Skills Assessment and Video Analysis	Suitability of GPT-4o as an evaluator of cardiopulmonary resuscitation skills examinations	Wang et al.	2024	China	LLM	ChatGPT-4o
Skills Assessment and Video Analysis	Implementation of a Smart Teaching and Assessment System for High-Quality Cardiopulmonary Resuscitation	Huang et al.	2024	Taiwan	DL	TensorFlow Lite, MoveNet
Planning and Management of Educational Programs	Creating a master training rotation schedule for emergency medicine residents and challenges in using artificial intelligence	Eskandarani et al.	2024	Saudi Arabia	LLM	AutoGPT
Natural Language Processing and Educational Evaluations	Exploring the Use of Natural Language Processing to Understand Emotions of Trainees and Faculty	Johnson et al.	2024	Canada	NLP	SA

ChatGPT: Chat Generative Pre-training Transformer, **DL:** Deep Learning, **LLM:** Large Language Models, **NLP:** Natural Language Processing, **StyleGAN:** Style - Generative Adversarial Network, **SA:** Sentiment Analysis