

Name of Journal: *World Journal of Gastroenterology*

Manuscript NO: 46356

Manuscript Type: MINIREVIEWS

Application of artificial intelligence in gastroenterology

Yang YJ *et al.* AI in gastroenterology

Young Joo Yang, Chang Seok Bang

Abstract

Artificial intelligence (AI) using deep-learning (DL) has emerged as a breakthrough computer technology. By the era of big data, the accumulation of an enormous number of digital images and medical records drove the need for the utilization of AI to efficiently deal with these data, which have become fundamental resources for a machine to learn by itself. Among several DL models, the convolutional neural network showed outstanding performance in image analysis. In the field of gastroenterology, physicians handle large amounts of clinical data and various kinds of image devices such as endoscopy and ultrasound. AI has been applied in gastroenterology in terms of diagnosis, prognosis, and image analysis. However, potential inherent selection bias cannot be excluded in the form of retrospective study. Because overfitting and spectrum bias (class imbalance) have the possibility of overestimating the accuracy, external validation using unused datasets for model development, collected in a way that minimizes the spectrum bias, is mandatory. For robust

Match Overview

1	Crossref 53 words Toshiaki Hirasawa, Kazuharu Aoyama, Tetsuya Tanimoto, Soichiro Ishihara et al. "Application of artificial intelligenc ...	1%
2	Internet 25 words crawled on 23-Nov-2011 lib.bioinfo.pl	<1%
3	Crossref 21 words Hirotoshi Takiyama, Tsuyoshi Ozawa, Soichiro Ishihara, Mi tsuhiro Fujishiro, Satoki Shichijo, Yuma Endo, Tomohiro Ta	<1%
4	Internet 20 words crawled on 22-May-2018 www.nature.com	<1%
5	Crossref 18 words Peter Klare, Christoph Sander, Martin Prinzen, Bernhard H aller et al. "Automated polyp detection in the colorectum ...	<1%
6	Crossref 17 words Kominami, Yoko, Shigeto Yoshida, Shinji Tanaka, Yoji Sano mura, Tsubasa Hirakawa, Bisser Raytchev, Toru Tamaki, Te	<1%
7	Crossref 17 words Yuichi Mori, Shin-ei Kudo, Hussein Ebaid Naeem Mohmed , Masashi Misawa et al. "Artificial intelligence and upper ...	<1%
8	Internet 15 words crawled on 30-Nov-2018 www.endoscopy-campus.com	<1%
9	Internet 14 words crawled on 14-Jan-2013	<1%

[全部](#)[图片](#)[新闻](#)[视频](#)[地图](#)[更多](#)[设置](#)[工具](#)

找到约 931,000 条结果 (用时 0.42 秒)

Google 学术: Application of artificial intelligence in gastroenterology

... systems, with an application in gastroenterology - Spiegelhalter - 被引用次数: 445

... the use of artificial neural networks in gastroenterology - Grossi - 被引用次数: 55

... model for the incidence of hepatitis A based on artificial ... - Guan - 被引用次数: 57

Artificial intelligence in gastrointestinal endoscopy: The future is ...

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6198310/> - 翻译此页

作者: M Alagappan - 2018 - 被引用次数: 1

跳到APPLICATIONS OF AI IN GASTROENTEROLOGY - Artificial intelligence (AI) enables machines to provide unparalleled value in a myriad of industries and applications. ...

Applications of artificial intelligence techniques, specifically machine learning and more recently deep learning, are beginning to emerge in gastrointestinal endoscopy.

Abstract · ARTIFICIAL ... · VALUE OF AI IN ... · FUTURE DIRECTIONS

Application of artificial intelligence using a convolutional neural ... - NCBI

<https://www.ncbi.nlm.nih.gov/pubmed/29335825> - 翻译此页

作者: T Hirasawa - 2018 - 被引用次数: 21 - 相关文章

2018年1月15日 - Application of artificial intelligence using a convolutional neural network ...

(1) Department of Gastroenterology, Cancer Institute Hospital Ariake, ...

Artificial Intelligence-Assisted Gastroenterology—Promises and Pitfalls

...

<https://www.nature.com> > ... > review articles - 翻译此页

作者: JK Ruffle - 2018 - 被引用次数: 1

2018年10月12日 - Technological advances in artificial intelligence (AI) represent an ... and describe promises and pitfalls for its application to gastroenterology.

Artificial Intelligence-Assisted Delay Detection for Gastroenterology

[全部](#)[图片](#)[新闻](#)[视频](#)[地图](#)[更多](#)[设置](#)[工具](#)

找到约 836,000 条结果 (用时 0.41 秒)

Google 学术: Application of artificial intelligence in gastroenterology

... systems, with an application in gastroenterology - Spiegelhalter - 被引用次数: 443

... the use of artificial neural networks in gastroenterology - Grossi - 被引用次数: 55

Application of artificial intelligence using a ... - Hirasawa - 被引用次数: 22

Artificial intelligence in gastrointestinal endoscopy: The future is ...

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6198310/> - 翻译此页

作者: M Alagappan - 2018 - 被引用次数: 1 - 相关文章

跳到APPLICATIONS OF AI IN GASTROENTEROLOGY - Artificial intelligence (AI) enables machines to provide unparalleled value in a myriad of industries and applications. ... Applications of artificial intelligence techniques, specifically machine learning and more recently deep learning, are beginning to emerge in gastrointestinal endoscopy.

Abstract · ARTIFICIAL ... · VALUE OF AI IN ... · FUTURE DIRECTIONS

Application of artificial intelligence using a convolutional neural ... - NCBI

<https://www.ncbi.nlm.nih.gov/pubmed/29335825> - 翻译此页

作者: T Hirasawa - 2018 - 被引用次数: 22 - 相关文章

2018年1月15日 - Application of artificial intelligence using a convolutional neural network ... (1)

Department of Gastroenterology, Cancer Institute Hospital Ariake, ...

Artificial Intelligence-Assisted Gastroenterology—Promises and Pitfalls ...

<https://www.nature.com> > ... > review articles - 翻译此页

作者: JK Ruffle - 2018 - 被引用次数: 1 - 相关文章

2018年10月12日 - Technological advances in artificial intelligence (AI) represent an ... and describe promises and pitfalls for its application to gastroenterology.

Artificial Intelligence Is the Future of Gastroenterology

<https://opmed.doximity.com/.../artificial-intelligence-is-the-future-of-gastroe...> ▾ 翻译此页

[全部](#)[图片](#)[新闻](#)[视频](#)[地图](#)[更多](#)[设置](#)[工具](#)

找到约 1,070,000 条结果 (用时 0.46 秒)

Google 学术: Application of artificial intelligence in gastroenterology

... systems, with an application in gastroenterology - Spiegelhalter - 被引用次数: 443

... the use of artificial neural networks in gastroenterology - Grossi - 被引用次数: 55

Application of artificial intelligence using a ... - Hirasawa - 被引用次数: 22

Artificial intelligence in gastrointestinal endoscopy: The future is ...

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6198310/> - 翻译此页

作者: M Alagappan - 2018 - 被引用次数: 2 - 相关文章

跳到APPLICATIONS OF AI IN GASTROENTEROLOGY - Artificial intelligence (AI) enables machines to provide unparalleled value in a myriad of industries and applications. ... Applications of artificial intelligence techniques, specifically machine learning and more recently deep learning, are beginning to emerge in gastrointestinal endoscopy.

Abstract - ARTIFICIAL ... - VALUE OF AI IN ... - FUTURE DIRECTIONS

Application of artificial intelligence using a convolutional neural ... - NCBI

<https://www.ncbi.nlm.nih.gov/pubmed/29335825> - 翻译此页

作者: T Hirasawa - 2018 - 被引用次数: 22 - 相关文章

2018年1月15日 - Application of artificial intelligence using a convolutional neural network ... (1)

Department of Gastroenterology, Cancer Institute Hospital Ariake, ...

Artificial Intelligence-Assisted Gastroenterology—Promises and Pitfalls ...

<https://www.nature.com> > ... > review articles - 翻译此页

作者: JK Ruffle - 2018 - 被引用次数: 1 - 相关文章

2018年10月12日 - Technological advances in artificial intelligence (AI) represent an ... and describe promises and pitfalls for its application to gastroenterology.

Artificial Intelligence-Assisted Polyp Detection for ... - Gastroenterology

[https://www.gastrojournal.org/article/S0016-5085\(18\)30415-3/fulltext](https://www.gastrojournal.org/article/S0016-5085(18)30415-3/fulltext) - 翻译此页