



ADA NSW

KNOWLEDGE CENTRE

Monday to Friday: 9.00am - 5.00pm

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FOCUS ON Artificial Intelligence Applications in Dentistry

A selection of recent resources available from the ADANSW knowledge centre
Contact knowledgecentre@adansw.com.au to request any of these resources

OR follow the links to access some items online.

If asked to login please use your ADA Federal Membership number and Password.

E- BOOK



[Machine learning in dentistry](#). Edited by Ching-Chang Ko, Dinggang Shen & Li Wang. Springer. 2021. (e-Book)

WEBINAR



[Dentistry 4.0: Virtually Anything is Possible](#)
Presented by Peter Norton and Bill Scarfe. (57 mins). ADA Inc. 2022.

PODCASTS



[AI in Dentistry: Building Trust and Elevating Patient Experience](#)
Presented by Claire Schifter, Kyle Stanley and Makenzie Harris. (31 mins). ADA NSW. 2023.

ONLINE DOCUMENT



[Artificial intelligence : Your questions answered](#) By Kathy Nicholson and Adam Slonim. Australian Strategic Policy Institute. 2022.

[Artificial Intelligence for dentistry](#) By Falk Schwendicke, Markus Blatz, Sergio Uribe, William Cheung, Mahesh Verma, Jina Linton and Young Jun Kim. FDI World Dental Federation. 2022.

[Artificial Intelligence in Oral Health](#) Edited by Jae-Hong Lee. Multidisciplinary Digital Publishing Institute. 2022.

VIDEO



[Are Artificial Intelligence \(AI\) and tele-medicine the dental profession's 'Uber' moment?](#)
CPD Presented by Grant Duncan at 38th ADA Dental Congress in Adelaide. (56 mins).

Artificial Intelligence Applications in Dentistry

ARTICLES



If asked to login please use your ADA Federal Membership number and Password.
Items not highlighted will need to be requested from the ADA NSW knowledge centre on
knowledgecentre@adansw.com.au

Article title	Published	Citation
Automatic recognition of teeth and periodontal bone loss measurement in digital radiographs using deep-learning artificial intelligence	2023	Journal of Dental Science 2023; 18(3): 1301-09
Artificial intelligence in orthodontics and orthognathic surgery: a bibliometric analysis of the 100 most-cited articles	2023	Head and Face Medicine 2023; 19(38): 11
The role of artificial intelligence in the treatment of obstructive sleep apnea	2023	Journal Of Otolaryngology Head & Neck Surgery 2023; 52(7): 1-6
Artificial intelligence applications in implant dentistry: A systematic review	2023	Journal of Prosthetic Dentistry 2023; 129(2): 293-300
Artificial intelligence in dentistry—A review	2023	Frontiers in Dental Medicine 2023 (1085251): 13
Artificial intelligence models for tooth-supported fixed and removable prosthodontics: A systematic review	2023	Journal of Prosthetic Dentistry 2023; 129(2): 276-292
Feasibility of deep learning for dental caries classification in bitewing radiographs based on the ICCMS™ radiographic scoring system	2023	Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology 2023; 135(2): 272-281
Transforming dental caries diagnosis through artificial intelligence-based techniques	2023	Cureus 2023; 15(7): e41694
Artificial intelligence (A.I.) in dental curricula: Ethics and responsible integration	2023	Journal of Dental Education 2023 (Jul 25) 4
What every dentist needs to know about the use of artificial intelligence in dentistry	2023	General Dentistry 2023; 71(3): 23-27
Artificial Intelligence Its Uses and Application in Pediatric Dentistry: A Review	2023	Biomedicines 2023; 11(3)788: 19
Detecting dental caries on oral photographs using artificial intelligence: A systematic review	2023	Oral Diseases 2023 (Jul 1): 19
Artificial Intelligence and Its Theranostic Applications in Dentistry	2023	Cureus 2023; 15(5): e38711

Artificial Intelligence and the Future of Dentistry	2023	Compendium of Continuing Education in Dentistry 2023; 44(5): 250-253
AI driven Orthodontic Devices: Independent Tooth Movers (ITM)	2023	Seminars in Orthodontics 2023 Jan 18:19
ChatGPT in dentistry: Is it worth the hype?	2022	British Dental Journal In Practice 2022; 36(4): 5
Could AI offer practical solutions for dentistry in the future?	2022	British Dental Journal Team 2022; 9: 26-28
Artificial intelligence - can it be used to outsmart oral cancer?	2022	Evidence-based dentistry 2022; 23(1): 12-13
Applications of artificial intelligence in dentistry: A comprehensive review	2022	Jnl of Esthetic & Restorative Dentistry 2022; 34(1): 259-280
A pilot study of a deep learning approach to detect marginal bone loss around implants	2022	BMC Oral Health 2022; 22(11): 1-8
Application of deep learning artificial intelligence technique to the classification of clinical orthodontic photos	2022	BMC Oral Health 2022; 22(454): 7
Artificial intelligence for sustainable oral healthcare	2022	Journal of Dentistry 2022; 127(104344): 4
Artificial intelligence - A boon for dentistry	2022	International Dental Journal of Student's Research 2022; 10(2): 37-42
Data-Driven Dental, Oral, and Craniofacial Analytics: Here to Stay	2022	Journal of Dental Research 2022; 101(11): 1255-1257
Embracing Precision and Data Science in Dentistry	2022	Journal of the California Dental Association 2022; 50(8): 440-451
Artificial Intelligence in Dentistry: Past, Present, and Future	2022	Cureus 2022; 14(7): e27405
Artificial Intelligence in Dentistry-Narrative Review	2022	International Journal of Environmental Research and Public Health 2022; 19(6): e3449
Advancements in Dentistry with Artificial Intelligence: Current Clinical Applications and Future Perspectives	2022	HealthCare 10(11):2188pp23
Artificial intelligence models for diagnosing gingivitis and periodontal disease: A systematic review	2022	Journal of Prosthetic Dentistry 2022 (Mar 14): 1-9
Artificial intelligence applications in restorative dentistry: A systematic review	2022	Journal of Prosthetic Dentistry 2022; 128(5): 867-875

Scope and challenges of machine learning-based diagnosis and prognosis in clinical dentistry: A literature review	2021	Journal of Clinical and Translational Research 2021; 7(4): 523-539
Artificial intelligence techniques: analysis, application, and outcome in dentistry — a systematic review	2021	BioMed Research International 2021; (9751564): 1-15
Application of Artificial Intelligence in Dentistry	2021	Journal of Dental Research 2021; 100(3): 232-244
Artificial Intelligence and Ethics in Dentistry: A Scoping Review	2021	Journal of Dental Research 2021; 100(13): 1452–1460
Artificial intelligence in orthodontics. 3-part series	2021-22	Journal of Aligner Orthodontics Part 1 2021; 5(4): 251-58 Part 2 2022; 6(2): 85-92 Part 3 2022; 6(3): 153-62
The ADEPT study: a comparative study of dentists' ability to detect enamel-only proximal caries in bitewing radiographs with and without the use of AssistDent artificial intelligence software	2021	British Dental Journal 2021; 231(8): 481-485
Application and Performance of Artificial Intelligence Technology in Oral Cancer Diagnosis and Prediction of Prognosis: A Systematic Review	2021	Diagnostics 2021; 11(6): 1004
Performance of deep learning object detection technology in the detection and diagnosis of maxillary sinus lesions on panoramic radiographs	2021	Dentomaxillofacial Radiology 50(1): pe20200171
Artificial intelligence in oral and maxillofacial radiology: what is currently possible?	2021	Dentomaxillofacial Radiology 2021; 50(3): pe20200375
Artificial Intelligence: The Future of Maxillofacial Prognosis and Diagnosis?	2021	Jnl of Oral & Maxillofacial Surgery 2021; 79(7): 1396-97
Artificial intelligence-driven novel tool for tooth detection and segmentation on panoramic radiographs	2021	Clinical Oral Investigations 2021; 25(4): 2257-67
A deep learning approach to dental restoration classification from bitewing and periapical radiographs	2021	Quintessence International 2021; 52(7): 568-74
Artificial Intelligence for Fast and Accurate 3-Dimensional Tooth Segmentation on Cone-beam Computed Tomography	2021	Jnl of Endodontics 2021; 47(5): 827-35
Applications of deep learning in dentistry	2021	Oral Surgery, Oral Medicine, Oral Pathology & Oral Radiology. 2021; 132(2): 225-386
Demystifying artificial intelligence and deep learning in dentistry	2021	Brazilian Oral Research 2021; 35: 1-7

Artificial intelligence for detection of periapical lesions on intraoral radiographs: Comparison between convolutional neural networks and human observers	2021	Oral Surgery, Oral Medicine, Oral Pathology & Oral Radiology. 2021; 131(5): 610-616
The validity of an artificial intelligence application for assessment of orthodontics treatment need from clinical images	2021	Seminars in Orthodontics 2021; 27(2): 164-71
Automated Identification of Dental Implants Using Artificial Intelligence	2021	Int Jnl of Oral & Maxillofacial Implants 2021; 36(5): 918-923
Cost-effectiveness of Artificial Intelligence for Proximal Caries Detection	2021	Journal of Dental Research. 2021; 100(4): 369-376
The Use and Performance of Artificial Intelligence in Prosthodontics: A Systematic Review	2021	Sensors 2021; 21(19):6628
Artificial intelligence for caries detection: Randomized trial	2021	Jnl of Dentistry 2021; 115(103849): 1-6
Promises and perils of artificial intelligence in dentistry	2021	Australian Dental Jnl 2021; 66(2): 124-35
Applications of artificial intelligence in dentistry	2021	Jnl of Dental Research 2021; JDR 100(3): 232-44
The future of artificial intelligence in dentistry	2020	Readwrite 7 Oct 2020
Artificial intelligence in dentistry: current applications and future perspectives	2020	Quintessence Int 2020; 51(3): 248-57
Development of an Artificial Intelligence Model to Identify a Dental Implant from a Radiograph	2020	Int Jnl Oral & Maxillofac Implants 2020; 35(6): 1077-82
Artificial intelligence in fixed implant prosthodontics: a retrospective study of 106 implant-supported monolithic zirconia crowns inserted in the posterior jaws of 90 patients	2020	BMC Oral Health 2020; 20(80): 16pp
Artificial intelligence in dentistry: chances and challenges	2020	Jnl Dent Research 2020; 99(7): 769-74
Role of artificial intelligence in diagnostic oral pathology: a modern approach	2020	Jnl Oral & Maxillofac Pathol 2020; 24: 152-56
Clinical applications and performance of intelligent systems in dental and maxillofacial radiology: a review	2020	Imaging Science in Dent 2020; 50(1): 80-92
Present and future of artificial intelligence in dentistry	2020	Journal of Oral Biology and Craniofacial Research 10(4): 391-6
The use and performance of artificial intelligence applications in dental and maxillofacial radiology: A systematic review	2020	Dentomaxillofacial Radiology 2020; 49(1): 20190107: 23pp

Dentronics: towards robotics and artificial intelligence in dentistry	2020	Dental Materials 202; 36(6): 765-78
Policy Statement 6.34 – Artificial intelligence in dentistry	2020	Australian Dental Association Inc. website
Artificial intelligence and team work in dentistry	2019	Int Jnl Esthetic Dentistry 2019; 14(2): 113-14
An overview of deep learning in the field of dentistry	2019	Imaging Science in Dent 2019; 49(1): 1-7
Deep learning for the radiographic detection of apical lesions	2019	Jnl of Endodontics 2019; 45(7): 917-22

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