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Machine Learning Presentations Examine Dental Caries Predication and Diagnosis

Alexandria, VA, USA – Various aspects of machine earning were explored at the hybrid 51st Annual Meeting & Exhibition of the AADOCR, held in conjunction with the 46th Annual Meeting of the Canadian Association for Dental Research (CADR), online and onsite in Atlanta, GA, on March 23-26, 2022.

Presentations included "Prediction of Caries in Young Adults Using Machine Learning Approach," presented as an in-person Interactive Talk on March 26, 2022 at 11 a.m. EDT by Chukwuebuka Elozona Ogwo, Temple University, Philadelphia, PA. This study was the first to apply machine learning techniques in the prediction of caries risk and identification of the most important predictors for caries in young adults with high accuracy and precision. The research concluded that more studies are needed using additional clinical variables and data from a more diverse population to improve the quality and generalizability of caries prediction in young adults.

Two presenters from The University of Texas Health Science Center at Houston shared their machine learning research. "Using A Deep Learning Model to Improve Dental Caries Diagnosis" was presented by Maryam Baldawi as an in-person Interactive Talk on March 26, 2022 at 8 a.m. EDT. The study aimed to compare the examiners' performance of caries lesion detection on the intraoral radiographic images to the performance of the deep learning Convolutional Neural Network (CNN) model. The study concluded that the deep learning model can help clinicians diagnose caries with more accuracy and reliability and ultimately improve patient care. "Developing a Deep Learning Model to Diagnose Dental Caries" was presented by Sonamben Patel as a virtual Interactive Talk on March 24, 2022 at 8 a.m. EDT. The objective of this study was to develop a deep Convolutional Neural Network (CNN) for the diagnosis of dental caries lesions using intraoral radiographic images. The results suggest that CNN network can improve the accuracy of caries detection based on intraoral radiographic images.

Registered attendees can view these presentation in the 2022 Annual Meeting Hybrid Platform.

About AADOCR
The American Association for Dental, Oral, and Craniofacial Research (AADOCR) is a nonprofit organization with over 3,000 members in the United States with a mission to drive dental, oral, and craniofacial research to advance health and well-being. AADOCR is the largest division of the International Association for Dental Research which has over 10,000 members. Learn more at www.aadocr.org.