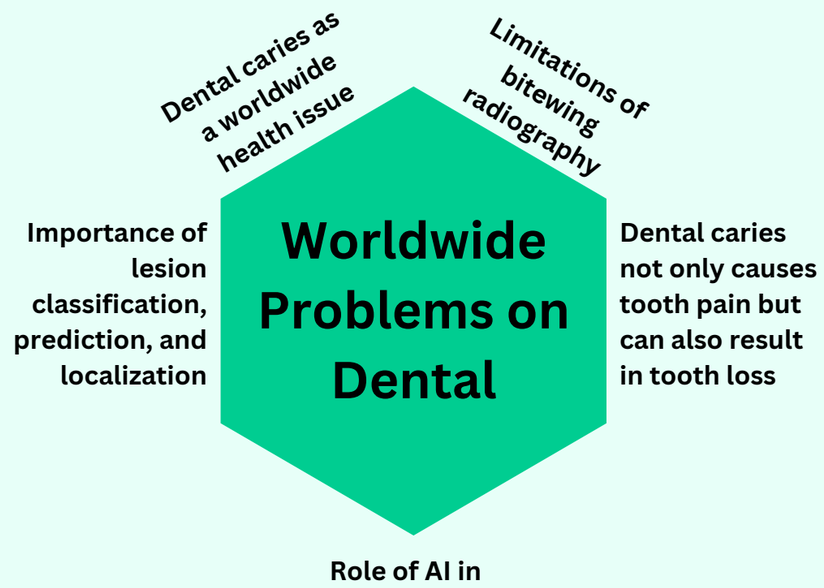
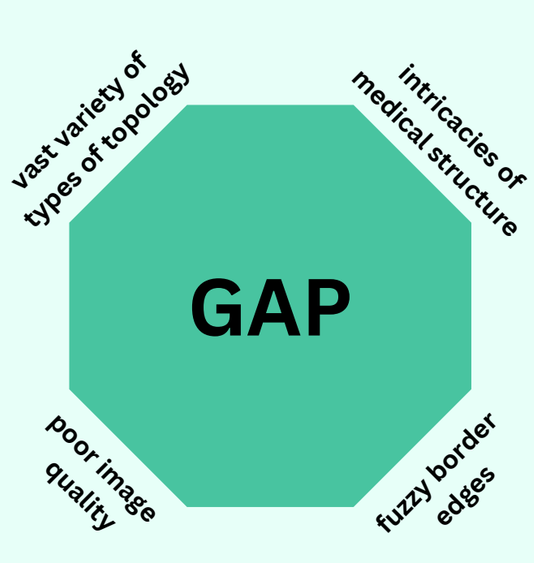
AN INTERNATIONAL AWARD-WINNING INSTITUTION FOR SUSTAINABILITY

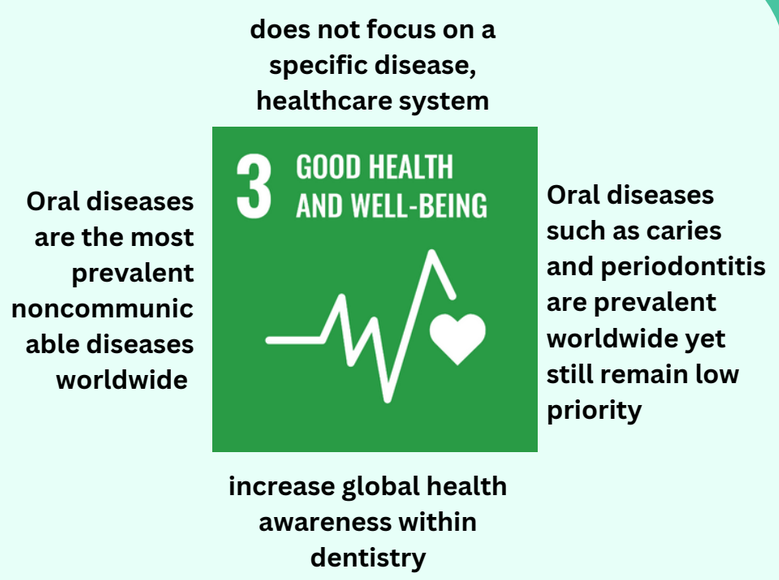
SMILED

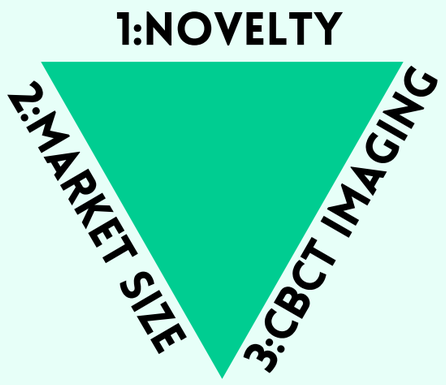
SMART MACHINE FOR IDENTIFYING DENTAL LESION

SIGNIFICANCE





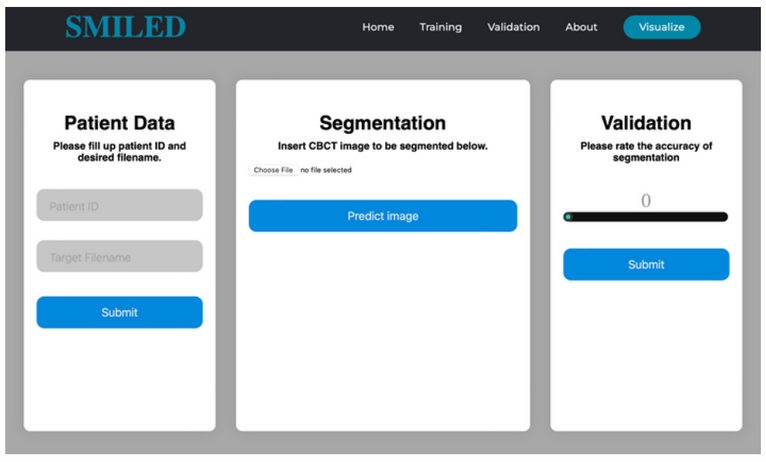


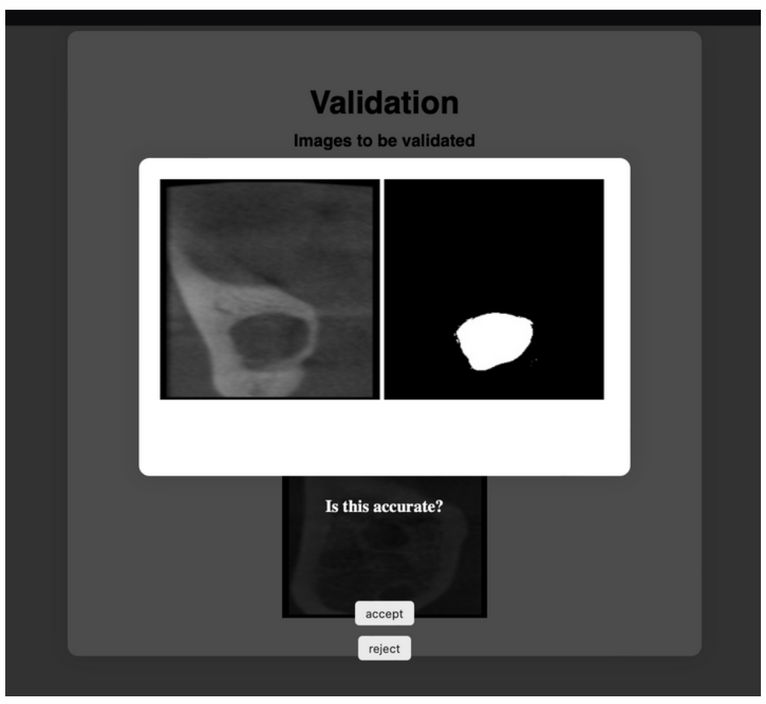


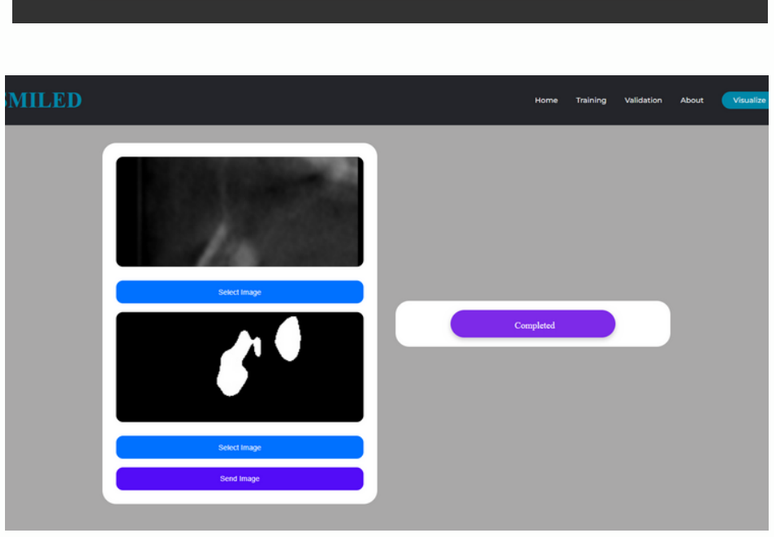
- Based on The Grand View Research, the global dental imaging market was valued at around **USD 2.4 billion** in 2020 and is expected to reach **USD 3.7 billion** by 2028, with a compound annual growth rate (CAGR) of 6.3% during the forecast period.
- The market growth is driven by factors such as the increasing adoption of digital dentistry, the growing geriatric population, and the rising demand for cosmetic dentistry procedures.
- All CBCT imaging in the world are using the common DICOM system and our innovation can use images from this DICOM format to do the lesion segmentation.
- This is also in line with **UNSDG Goal #3: good health and well-being** and **#9: industry, innovation and infrastructure.**

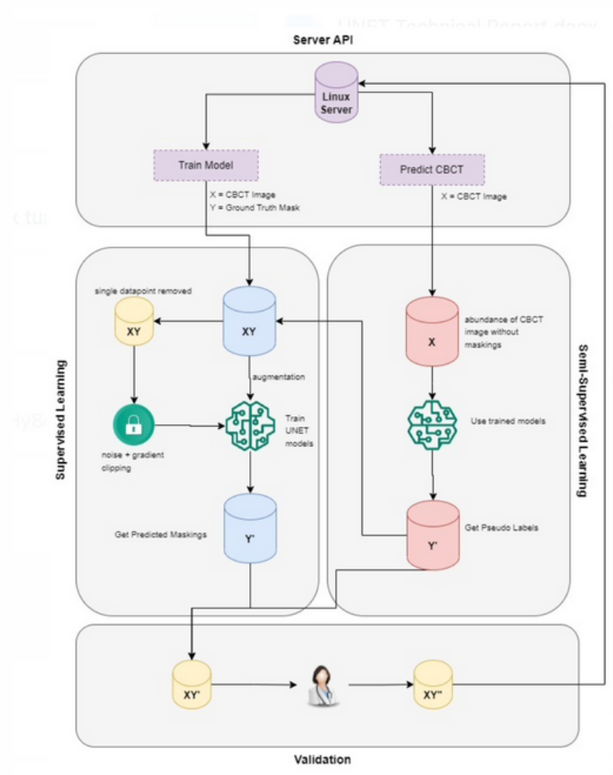
- CBCT is an advanced 3D imaging modality in dentistry, developed in early 2000 and crucial in diagnosing many dental conditions and diseases.
- It offers **great radiation dose reduction** when compared to conventional medical CT imaging.
- Interpreting dental diseases is not easy, and visualization of the disease/lesion can help dentist with patient acceptance for treatment.

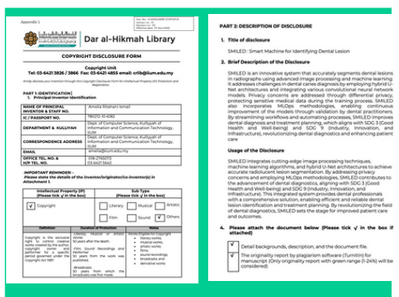
PRODUCT INTERFACE











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The study was approved by the International Islamic University Malaysia Research Ethics Commitee, approval no. **(IIUM IREC 2022-152)**

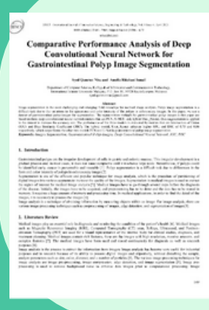
IREC

PATENT SEARCH

- **machine learning dental cbct cyst segmentation: 20 patents**
- **machine learning dental cbct tumor segmentation: 44 patents**
- **machine learning dental lesion segmentation: 102 patents**
- **lens.org 28 June 2023**

PUBLICATIONS

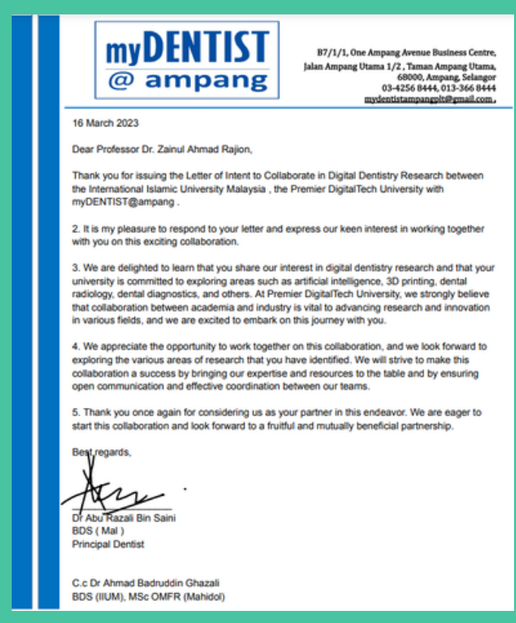
Dual U-Net with Resnet Encoder for Segmentation of Medical Images
January 2022
International Journal of Advanced Computer Science and Applications 13(12)
DOI:10.14569/IJACSA.2022.0131265



Comparative Performance Analysis of Deep Convolutional Neural Network for Gastrointestinal Polyp Image Segmentation
April 2021
International Journal of Innovative Research in Science Engineering and Technology 8(4):8

Medical Image Analysis using Deep Learning: A Review
December 2020
DOI:10.1109/ICETAS51660.2020.9484287
Conference: 2020 IEEE 7th International Conference on Engineering Technologies and Applied Sciences (ICETAS)

LETTER OF INTENT



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