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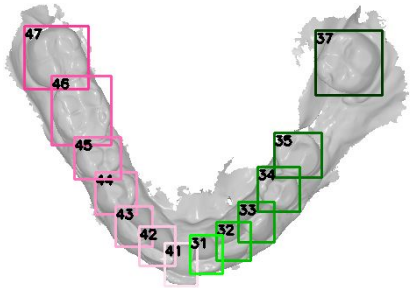
DENTAL AI

Dental Image Tooth Localization and Numbering Challenge

IndabaX Tunisia 2024

About the challenge:

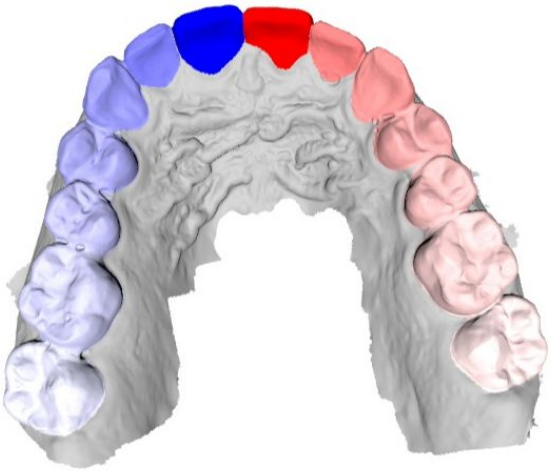
The challenge aims to develop AI models that can accurately detect and labelize teeth from occlusion-rendered images of 3D intraoral scans.

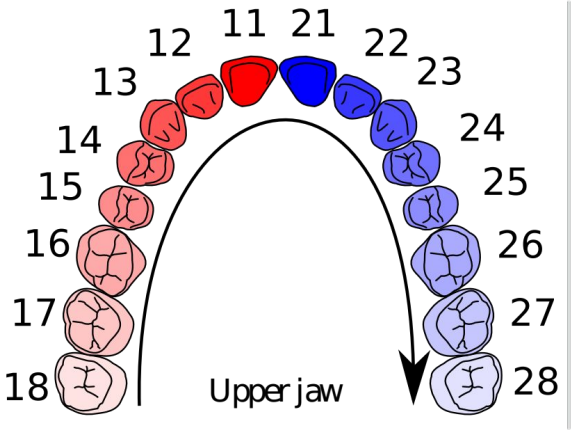


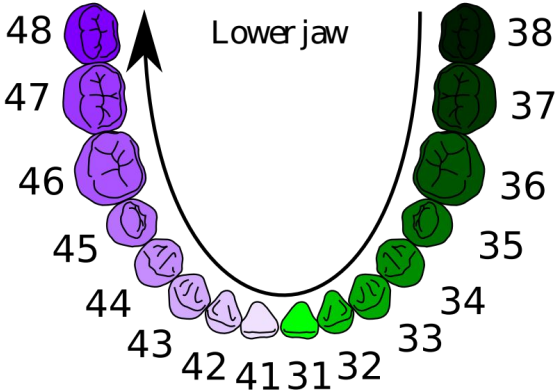
18-19 May 2024

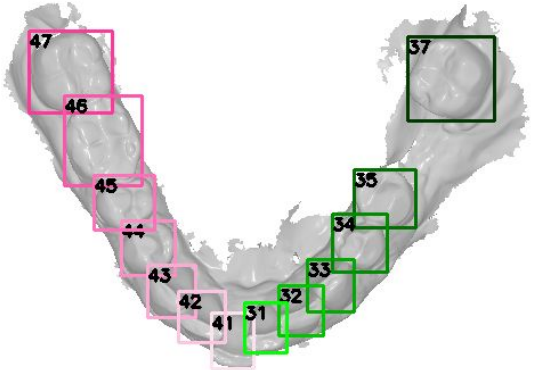
Key tasks:

- Tooth Detection (Localization)
- Tooth Numbering



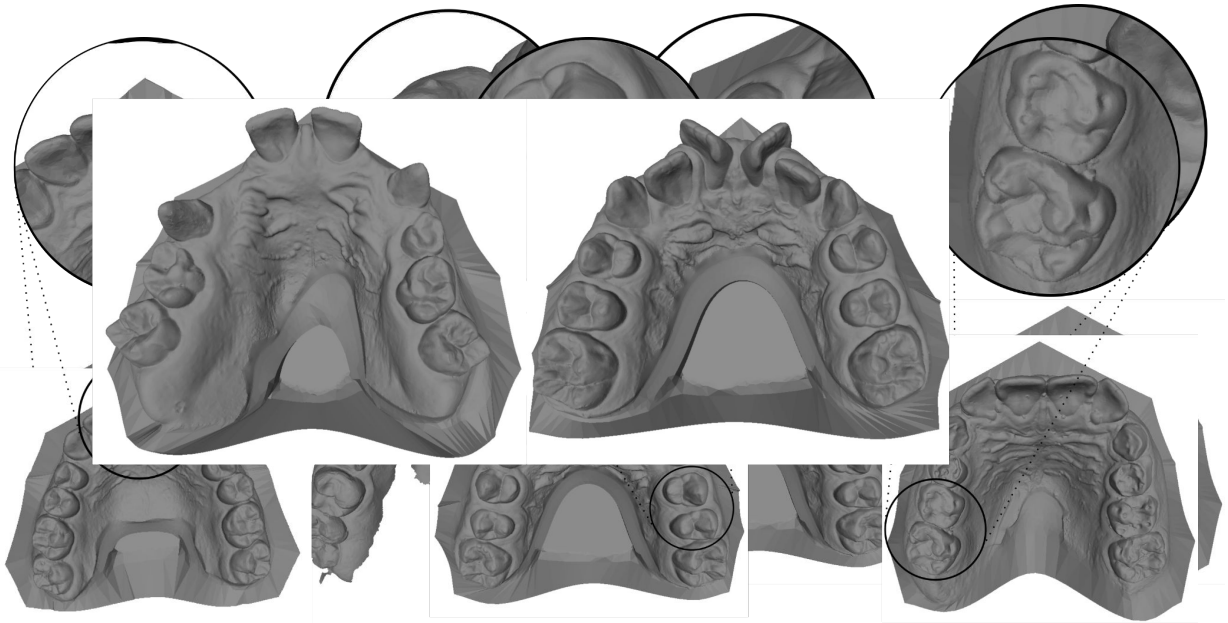






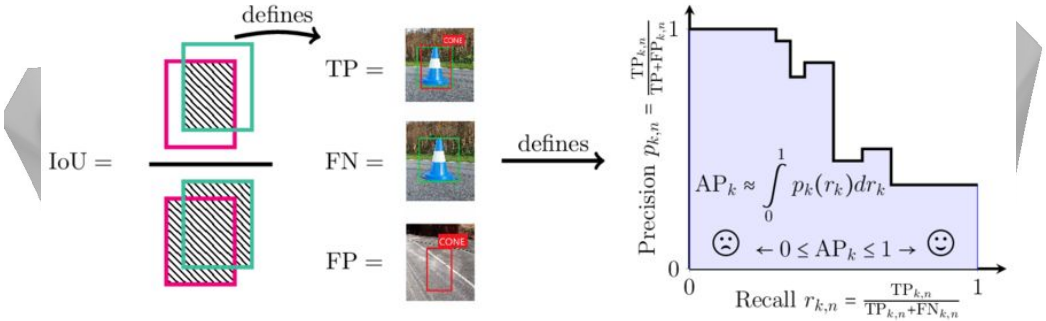
Challenges :

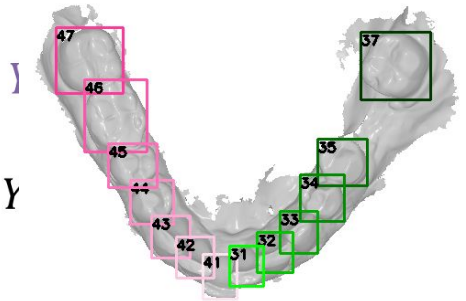
- Teeth arrangement variation : missing tooth, tooth position and orientation, ...
- Intra class variation
- Inter class variation



Variables description:

Variable	Description
ID	Unique ID for each IMAGE
Class	tooth number in FDI numbering format **i.e** [class_36 class_31 class_41 class_12]
Confidence score	confidence score of each bounding box predicted
(ymin, xmin, ymax, xmax)	The values of the bounding box as per the PASCAL implementation





Sample submission example:

```
ID,Class, Confidence, ymin, xmin, ymax, xmax
ID 001200,class 44,0.95,276,134,321,185
ID 001200,class 36,0.99,160,350,231,420
ID_001201,class_34,0.75,266,324,318,373
```

```
--In this example for image ID 001200 there
are two tooth bboxes (class 44 and 36)
detected and one single bbox for image
ID_001201 (class 34) --
```

Image_ID,	class,	ymin,	xmin	ymax	xmax
ID_001250	class_36	174	366	253	441
ID_001250	class_34	192	345	340	351
ID_001250	class_47	126	157	197	312
ID_001250	class_31	161	222	211	398
ID_001250	class_32	251	235	39	138
ID_001250	class_33	236	225	382	338
…					
…					
…					
ID_001251	class_36	280	325	352	360
ID_001251	class_35	380	171	347	177
ID_001251	class_34	322	266	377	399
…					
…					
…					

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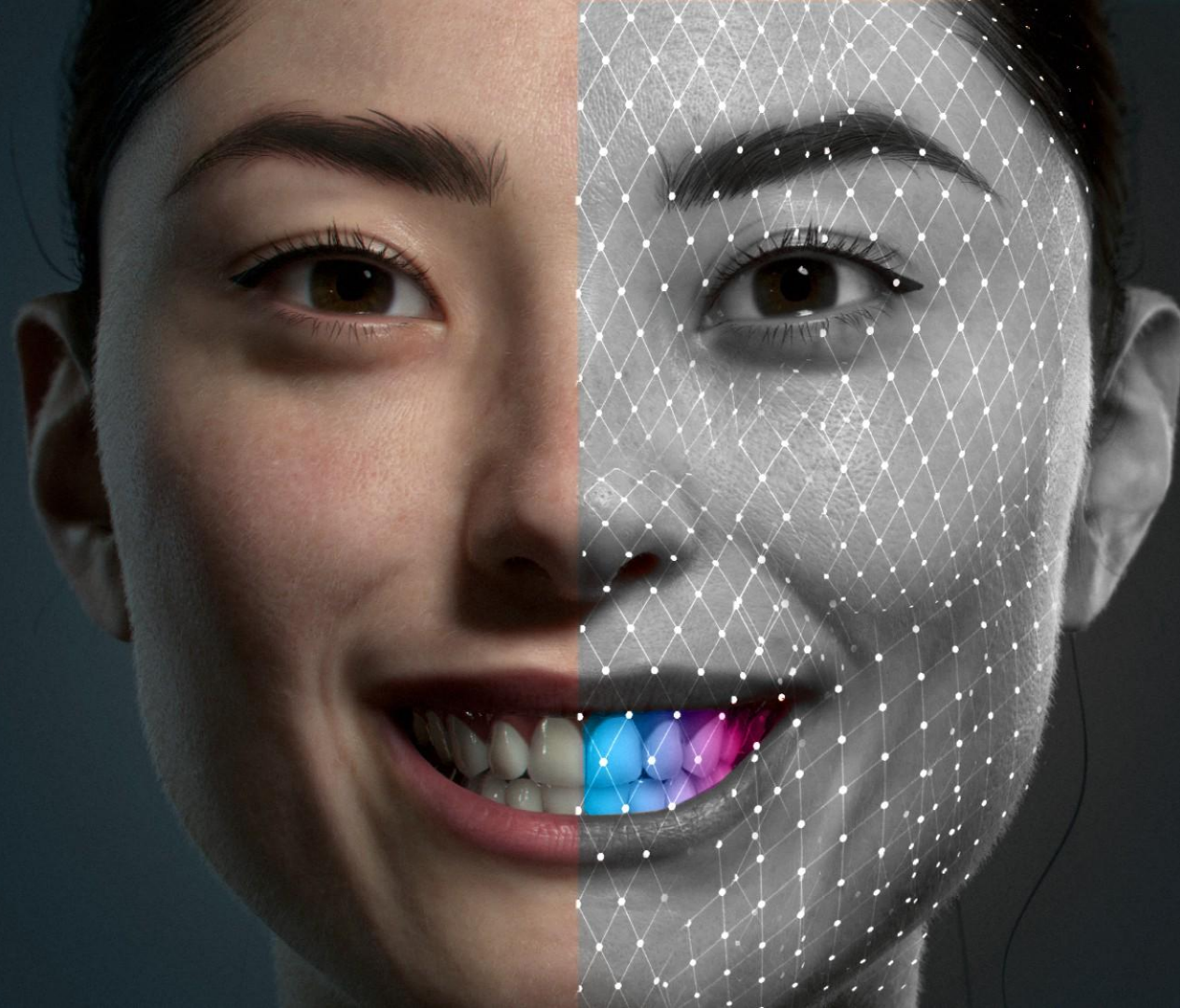

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