Ground Truth | Ensemble Prediction

Grounding Caption

This localization caption provides multi-dimensional spatial analysis of anatomical structures and pathological findings for this panoramic dental X-ray image, including:

Teeth visibility with center points (total: 9):
[
{'point_2d': [510, 612], 'tooth_id': '48', 'score': 0.9},
{'point_2d': [532, 498], 'tooth_id': '18', 'score': 0.89},
{'point_2d': [1230, 536], 'tooth_id': '28', 'score': 0.83},
{'point_2d': [1096, 541], 'tooth_id': '26', 'score': 0.83},
{'point_2d': [971, 508], 'tooth_id': '23', 'score': 0.79},
{'point_2d': [1166, 533], 'tooth_id': '27', 'score': 0.75},
{'point_2d': [829, 563], 'tooth_id': '12', 'score': 0.73},
{'point_2d': [739, 666], 'tooth_id': '43', 'score': 0.63},
{'point_2d': [593, 615], 'tooth_id': '47', 'score': 0.62}
]

Wisdom teeth detection (total: 3):
[
{'box_2d': [447, 556, 573, 669], 'tooth_id': '48', 'is_impacted': false, 'score': 0.9},
{'box_2d': [492, 429, 571, 567], 'tooth_id': '18', 'is_impacted': false, 'score': 0.89},
{'box_2d': [1202, 461, 1258, 611], 'tooth_id': '28', 'is_impacted': false, 'score': 0.83}
]

Dental Pathological Findings (total: 4):
[
{'box_2d': [1206, 611, 1260, 656], 'tooth_id': 'unknown', 'label': 'root-stump', 'score': 0.71, 'near_tooth': '28'},
{'box_2d': [499, 562, 546, 587], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.34, 'near_tooth': '48'},
{'box_2d': [1205, 533, 1228, 591], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.33, 'near_tooth': '28'},
{'box_2d': [1133, 530, 1155, 552], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.19, 'near_tooth': '27'}
]

Historical Treatments (total: 9):
[
{'box_2d': [1054, 539, 1133, 613], 'tooth_id': '26', 'label': 'crown', 'score': 0.81},
{'box_2d': [1131, 535, 1202, 609], 'tooth_id': '27', 'label': 'crown', 'score': 0.75},
{'box_2d': [530, 584, 643, 695], 'tooth_id': 'unknown', 'label': 'rc-treated', 'score': 0.93, 'near_tooth': '47'},
{'box_2d': [1028, 606, 1150, 770], 'tooth_id': 'unknown', 'label': 'rc-treated', 'score': 0.9, 'near_tooth': '26'},
{'box_2d': [1115, 605, 1218, 743], 'tooth_id': 'unknown', 'label': 'rc-treated', 'score': 0.89, 'near_tooth': '27'},
{'box_2d': [1118, 606, 1203, 670], 'tooth_id': 'unknown', 'label': 'crown', 'score': 0.88, 'near_tooth': '27'},
{'box_2d': [717, 451, 809, 606], 'tooth_id': 'unknown', 'label': 'rc-treated', 'score': 0.86, 'near_tooth': '12'},
{'box_2d': [1031, 608, 1123, 687], 'tooth_id': 'unknown', 'label': 'crown', 'score': 0.85, 'near_tooth': '26'},
{'box_2d': [730, 534, 812, 607], 'tooth_id': 'unknown', 'label': 'crown', 'score': 0.64, 'near_tooth': '12'}
]

Medical Report

Teeth-Specific Observations

1. **General Condition**

A total of 9 teeth were visualized in the panoramic projection. The left lower first molar (#28), upper right third molar (#48), and upper left third molar (#18) are present and unimpacted. No radiographic signs of active periodontal disease or

widespread radiolucencies were observed.

2. **Pathological Findings**

- **#28**: Suspicious for a root stump near the distal aspect.

- **#48**: Areas of concern noted for potential carious involvement at the mesial surface.

- **#28**: Suspected carious lesion at the distal surface.

- **#27**: Areas of concern for early carious demineralization at the mesial surface.

3. **Historical Interventions**

- **#26**: Presence of a full-coverage crown with evidence of prior root canal treatment.

- **#27**: Full-coverage crown and root canal-treated tooth.

- **#12**: Root canal-treated tooth with a partial crown.

Clinical Summary & Recommendations

1. **Priority Concerns**

- Immediate attention required for suspicious root stump near #28.

- High-priority carious involvement in #48 and #28, necessitating prompt restorative intervention.

- Monitor low-confidence carious concern near #27 for progression.

2. **Preventive Measures**

- Reinforce interdental cleaning techniques for #28 and #48 to mitigate caries risk.

- Recommend professional scaling to address suspected calculus deposits.

- Apply fluoride varnish to high-risk surfaces (#28, #48).

3. **Follow-up Protocol**

- Schedule recall in 6 months for reassessment of #27 and #28.

- Refer to endodontist for evaluation of root stump near #28.

- Initiate restorative treatment for #48 and #28 within 2 weeks.