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: 26):
[
{'point_2d': [557, 578], 'tooth_id': '46', 'score': 0.96},
{'point_2d': [629, 581], 'tooth_id': '45', 'score': 0.94},
{'point_2d': [822, 361], 'tooth_id': '21', 'score': 0.93},
{'point_2d': [762, 363], 'tooth_id': '11', 'score': 0.92},
{'point_2d': [655, 368], 'tooth_id': '13', 'score': 0.92},
{'point_2d': [416, 376], 'tooth_id': '17', 'score': 0.92},
{'point_2d': [1169, 384], 'tooth_id': '27', 'score': 0.91},
{'point_2d': [921, 357], 'tooth_id': '23', 'score': 0.9},
{'point_2d': [1152, 598], 'tooth_id': '37', 'score': 0.9},
{'point_2d': [783, 582], 'tooth_id': '42', 'score': 0.9},
{'point_2d': [1241, 563], 'tooth_id': '38', 'score': 0.89},
{'point_2d': [736, 597], 'tooth_id': '43', 'score': 0.89},
{'point_2d': [616, 373], 'tooth_id': '14', 'score': 0.89},
{'point_2d': [714, 370], 'tooth_id': '12', 'score': 0.88},
{'point_2d': [1091, 395], 'tooth_id': '26', 'score': 0.88},
{'point_2d': [1019, 376], 'tooth_id': '25', 'score': 0.88},
{'point_2d': [869, 374], 'tooth_id': '22', 'score': 0.87},
{'point_2d': [571, 377], 'tooth_id': '15', 'score': 0.86},
{'point_2d': [401, 499], 'tooth_id': '47', 'score': 0.86},
{'point_2d': [968, 376], 'tooth_id': '24', 'score': 0.85},
{'point_2d': [1007, 616], 'tooth_id': '35', 'score': 0.85},
{'point_2d': [913, 625], 'tooth_id': '33', 'score': 0.84},
{'point_2d': [961, 615], 'tooth_id': '34', 'score': 0.83},
{'point_2d': [816, 578], 'tooth_id': '41', 'score': 0.8},
{'point_2d': [845, 579], 'tooth_id': '31', 'score': 0.78},
{'point_2d': [869, 582], 'tooth_id': '32', 'score': 0.76}
]

Wisdom teeth detection (total: 1):
[
{'box_2d': [1178, 490, 1304, 637], 'tooth_id': '38', 'is_impacted': false, 'score': 0.89}
]

Dental Pathological Findings (total: 9):
[
{'box_2d': [1069, 291, 1165, 482], 'tooth_id': '26', 'label': 'periapical radiolucency', 'score': 0.27},
{'box_2d': [454, 531, 517, 596], 'tooth_id': 'unknown', 'label': 'root-stump', 'score': 0.84, 'near_tooth': '46'},
{'box_2d': [649, 526, 712, 654], 'tooth_id': 'unknown', 'label': 'root-stump', 'score': 0.8, 'near_tooth': '45'},
{'box_2d': [1035, 564, 1101, 646], 'tooth_id': 'unknown', 'label': 'root-stump', 'score': 0.77, 'near_tooth': '35'},
{'box_2d': [1057, 623, 1100, 659], 'tooth_id': 'unknown', 'label': 'periapical radiolucency', 'score': 0.53, 'near_tooth': '35'},
{'box_2d': [578, 527, 604, 566], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.52, 'near_tooth': '46'},
{'box_2d': [548, 390, 574, 438], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.39, 'near_tooth': '15'},
{'box_2d': [329, 462, 468, 588], 'tooth_id': 'unknown', 'label': 'impacted', 'score': 0.38, 'near_tooth': '47'},
{'box_2d': [648, 642, 689, 673], 'tooth_id': 'unknown', 'label': 'periapical radiolucency', 'score': 0.31, 'near_tooth': '45'}
]

Historical Treatments (total: 2):
[
{'box_2d': [450, 283, 552, 450], 'tooth_id': 'unknown', 'label': 'rc-treated', 'score': 0.93, 'near_tooth': '15'},
{'box_2d': [450, 377, 551, 452], 'tooth_id': 'unknown', 'label': 'crown', 'score': 0.85, 'near_tooth': '15'}

]

Medical Report

Teeth-Specific Observations

1. **General Condition**

A total of 26 teeth were visualized. The right upper third molar (#38) is present and unimpacted, while other wisdom teeth (e.g., left upper and lower quadrants) are either missing or not visualized. No significant periodontal osseous defects or alveolar bone loss were observed.

2. **Pathological Findings**

- **Caries**:

- Suspicious for caries near tooth #46 (FDI) and #15 (FDI).

- **Periapical Radiolucency**:

- Suspicious for periapical radiolucency on tooth #26 (FDI).

- Suspicious for periapical radiolucency near tooth #35 (FDI).

- Areas of concern for periapical radiolucency near tooth #45 (FDI).

- **Root Stumps**:

- Presence of root stumps near tooth #46 (FDI) and #45 (FDI).

- Suspicious for a root stump near tooth #35 (FDI).

- **Impacted Structures**:

- Areas of concern for impacted structures near tooth #47 (FDI).

3. **Historical Interventions**

- Presence of a root canal-treated tooth near tooth #15 (FDI).

- Presence of a crown near tooth #15 (FDI).

Clinical Summary & Recommendations

1. **Priority Concerns**

- Root stumps near #46, #45, and suspicious root stump near #35 require evaluation for potential residual roots or treatment planning.

- Periapical radiolucency on #26 warrants endodontic assessment to confirm apical pathology.

- Root canal-treated tooth near #15 should be monitored for secondary caries or fracture risk.

2. **Preventive Measures**

- Reinforce oral hygiene protocols for caries-prone areas near #46 and #15.

- Monitor areas of suspected caries near #46 and #15 with regular recall appointments.

- Consider fluoride application for caries prevention in high-risk regions.

3. **Follow-up Protocol**

- **6-month recall** for