

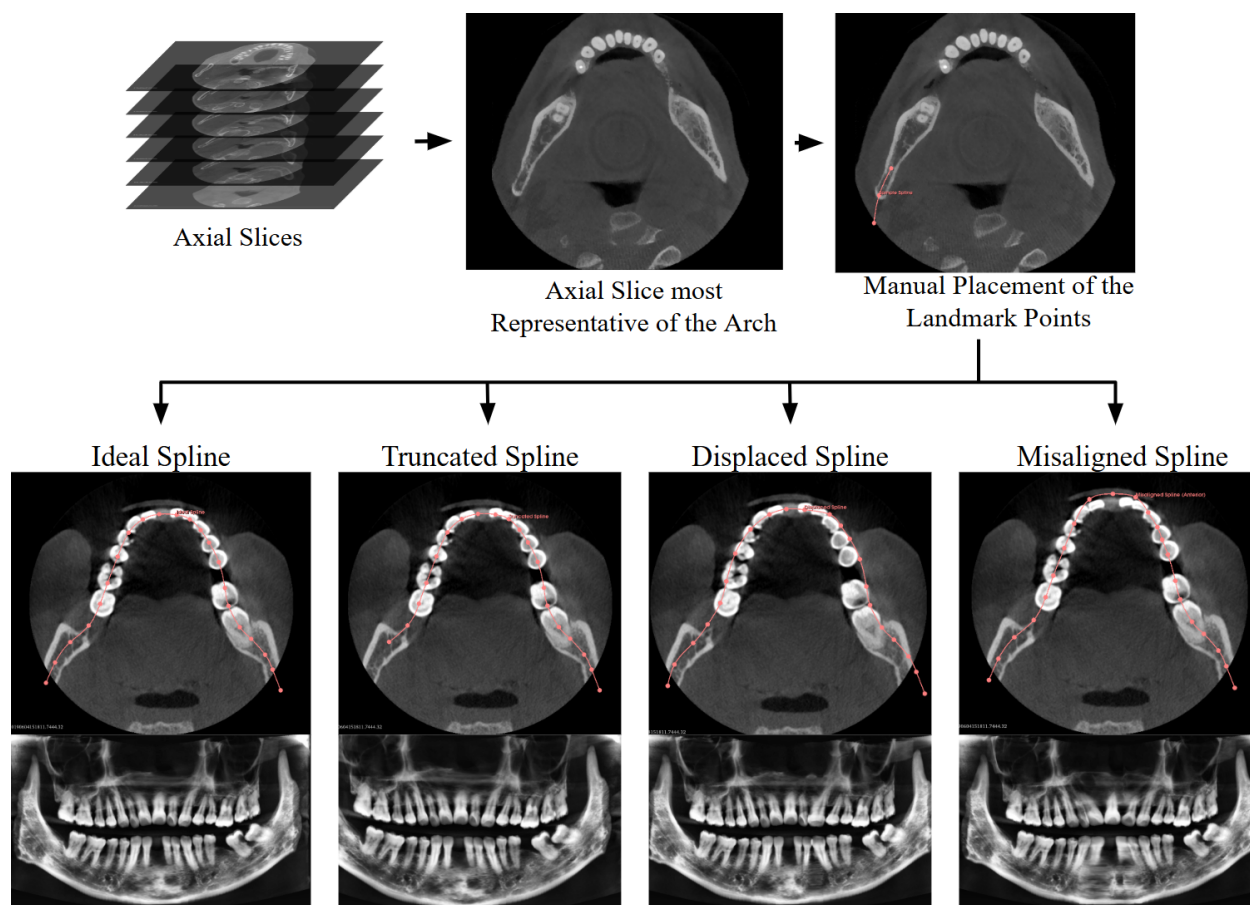


Fig 1. Manual workflow of axial slices. Bottom row (left to right): ideal, truncated, displaced, and misaligned spline. AutoSpline automates the landmark placement step

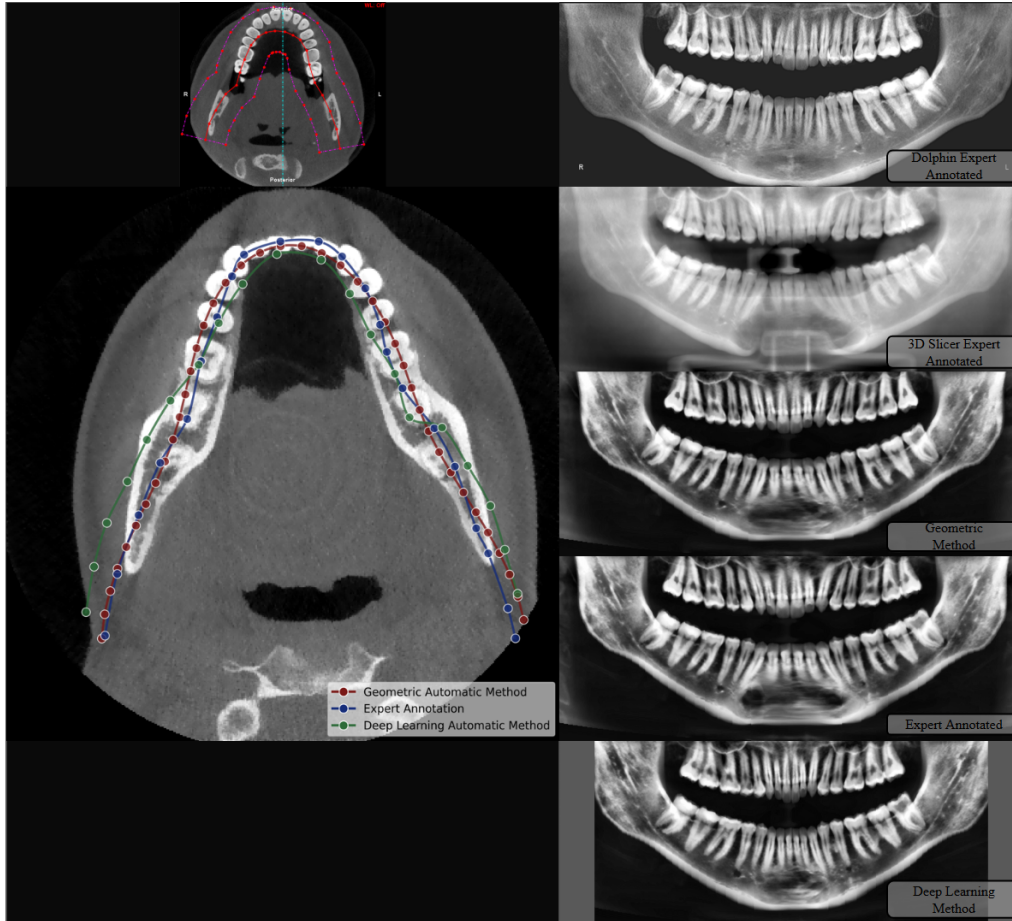


Fig 3. Qualitative comparison (ToothFairy2F_018). Left: axial slice with splines overlaid (red: A; blue: expert; green: C). Right, top to bottom: panoramics from Dolphin, 3D Slicer, route A, expert, route C. Route C achieves the best SSIM despite higher MCD than route B.

A Dataset Demographics and Annotation Quality

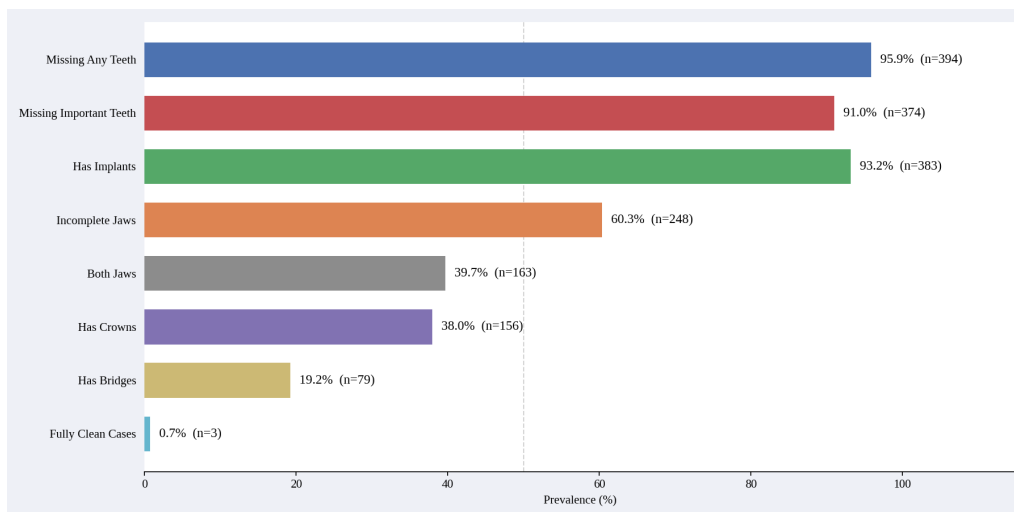


Fig 4. Label Prevalence.

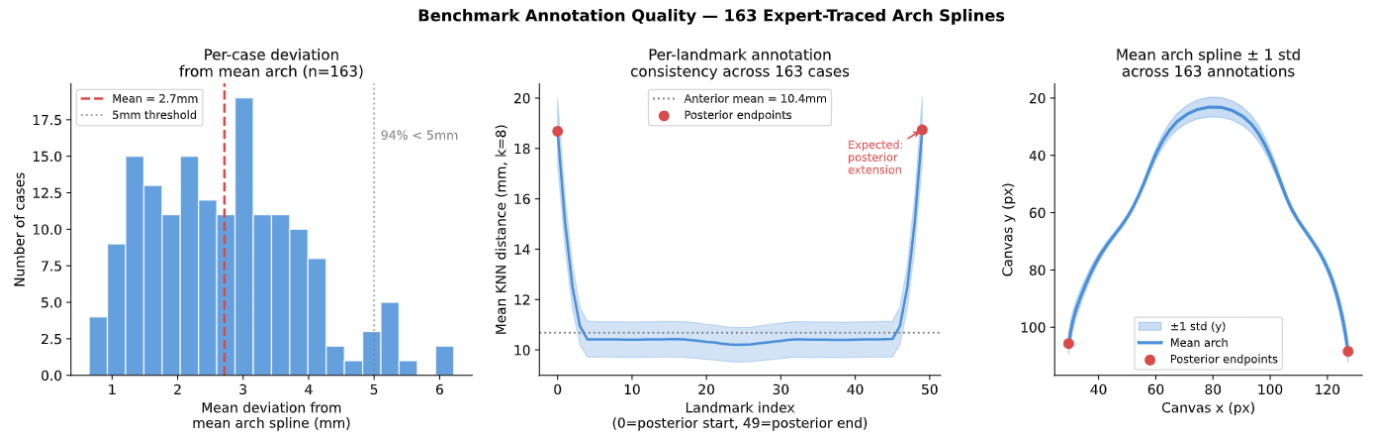


Fig 4c. Annotation quality.

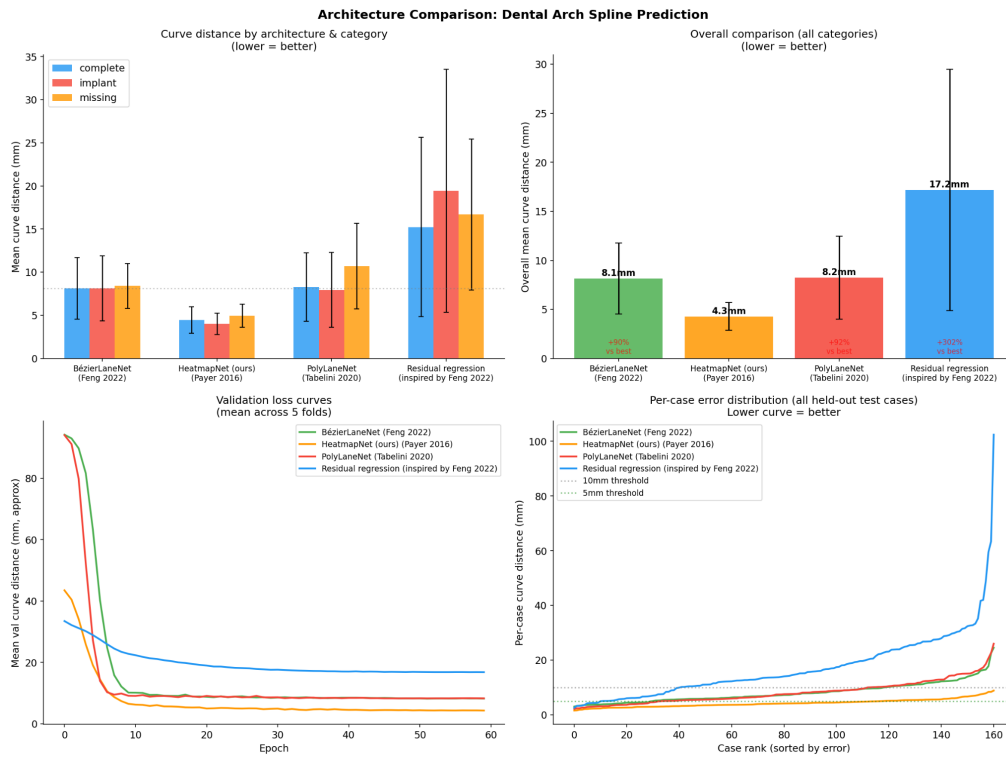


Fig 4d. Architecture comparison.

Fig. 4: (a) Label prevalence in ToothFairy2; important teeth = first six per quadrant. (b) Jaw completeness; all 163 complete-jaw cases were annotated. (c) Annotation quality: mean deviation 2.7 ± 1.2 mm, 94.5% within 5 mm; higher posterior variance reflects protocol extension past condyle. (d) Architecture comparison: HeatmapNet achieves the lowest MCD across all categories with the tightest per-case distribution.

B Additional Cases

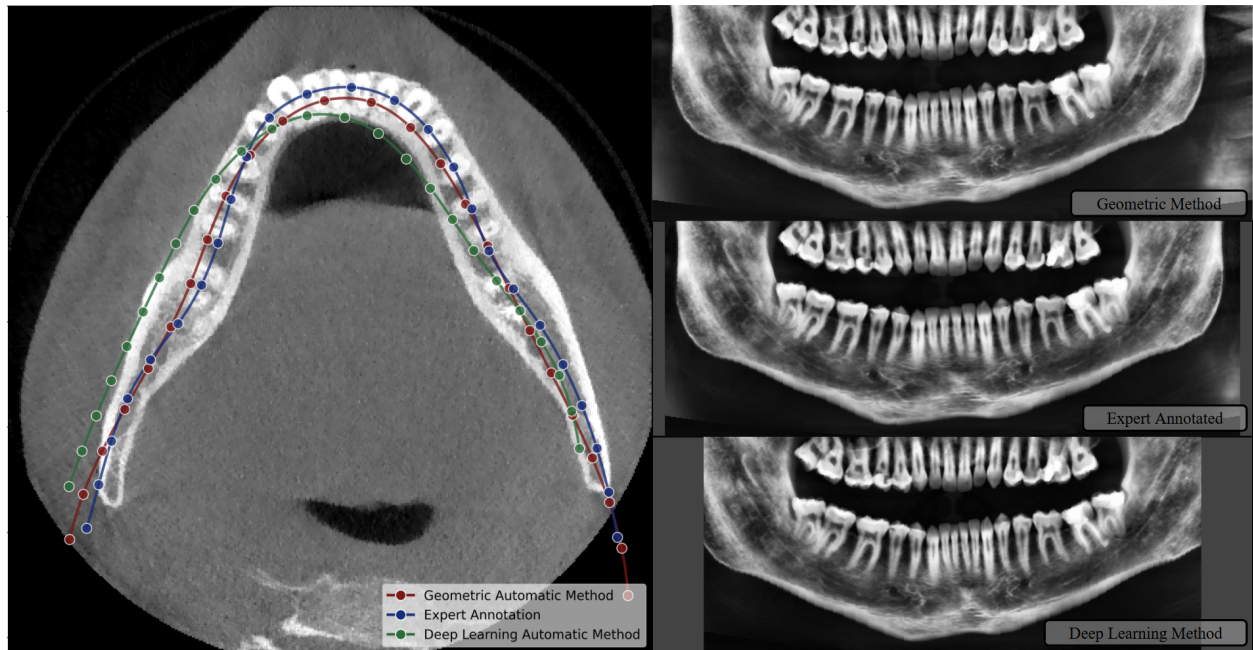


Fig 5a. Case 22 (best case)

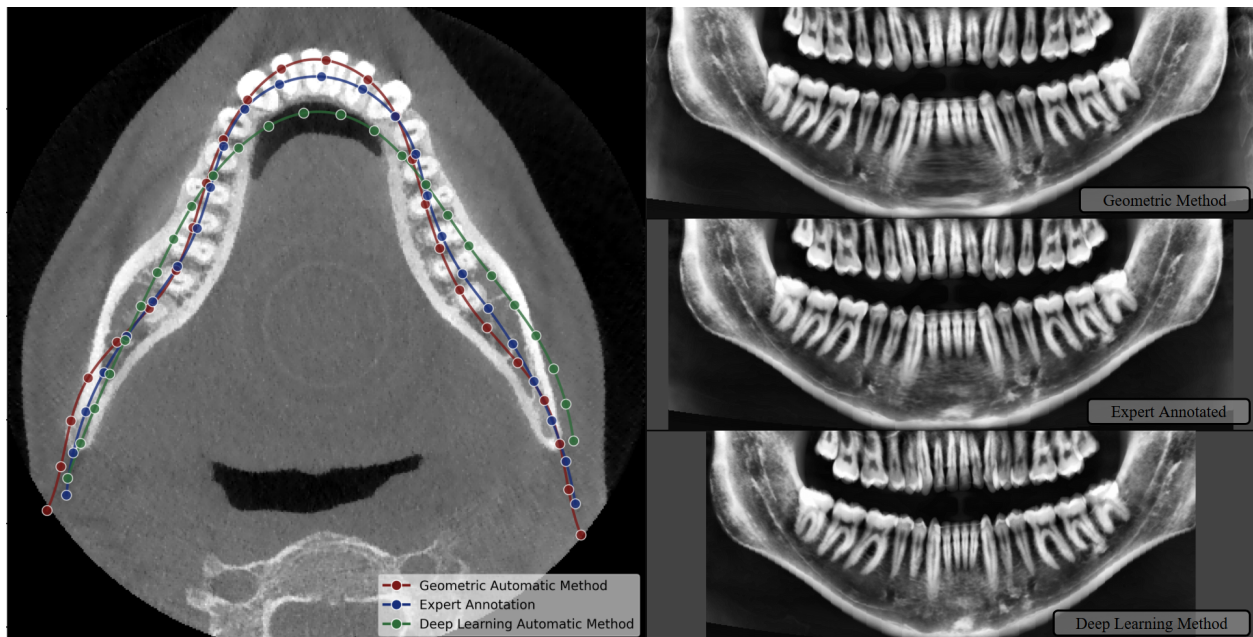


Fig 5b. Case 23 (best case)

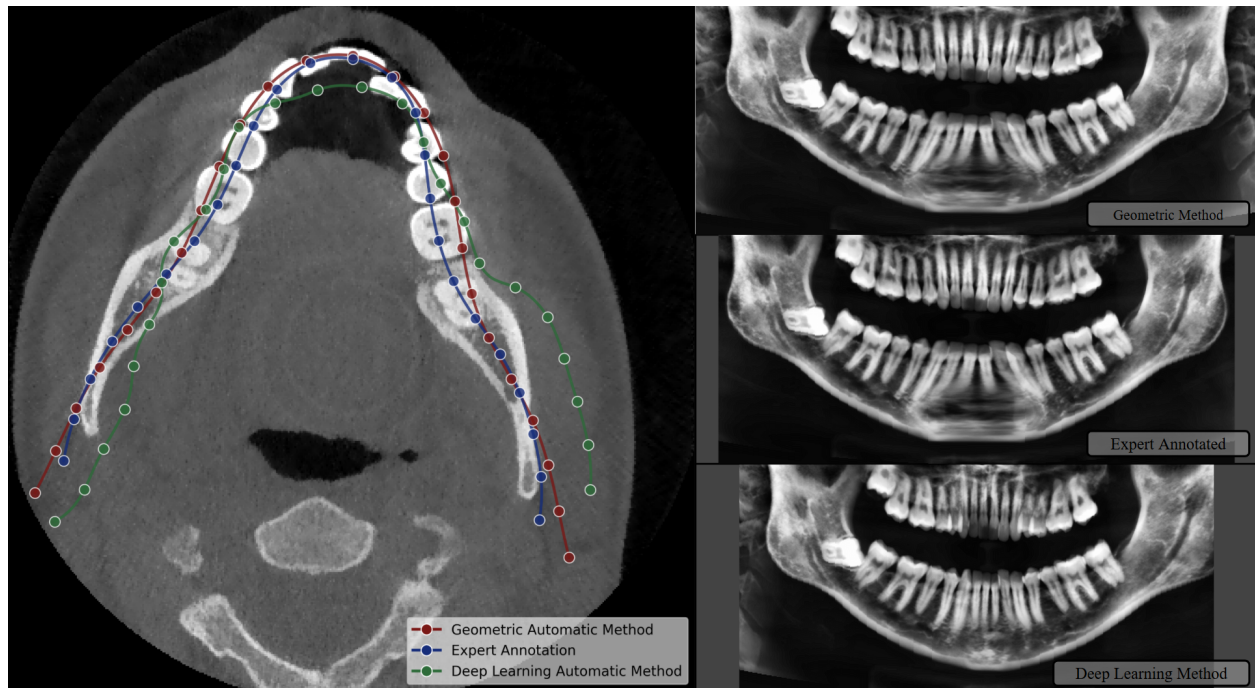


Fig 5c. Case 41 (worst case)

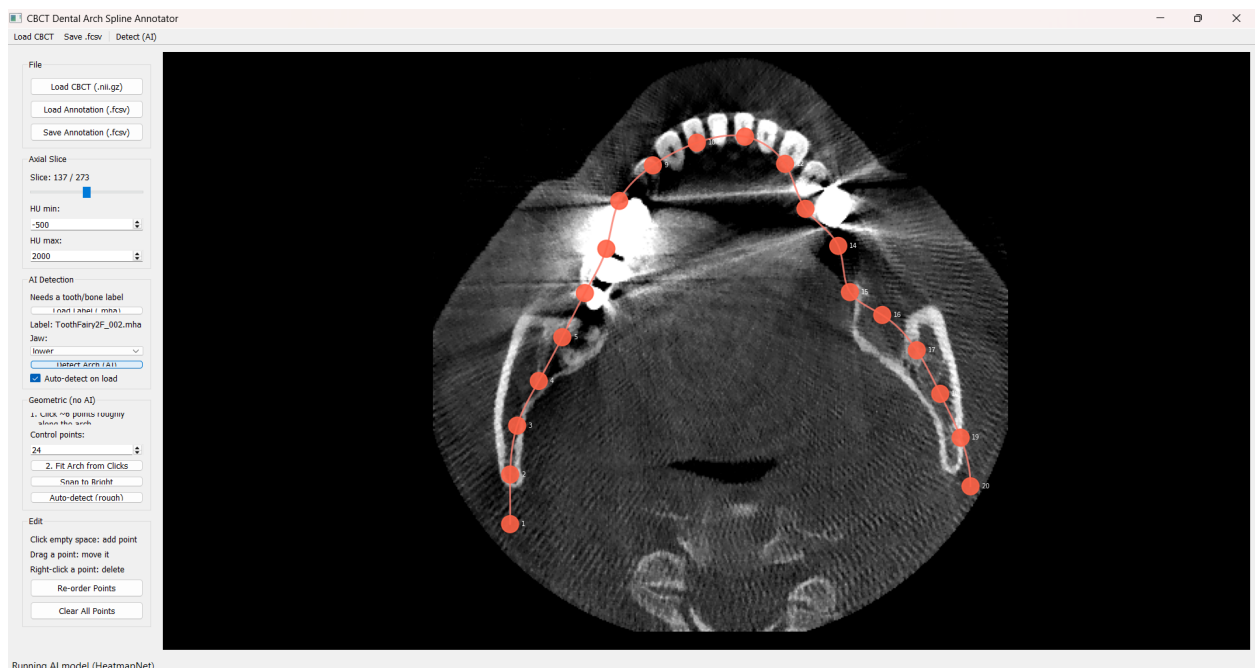


Fig 5d. Heavy implants: model succeeds.

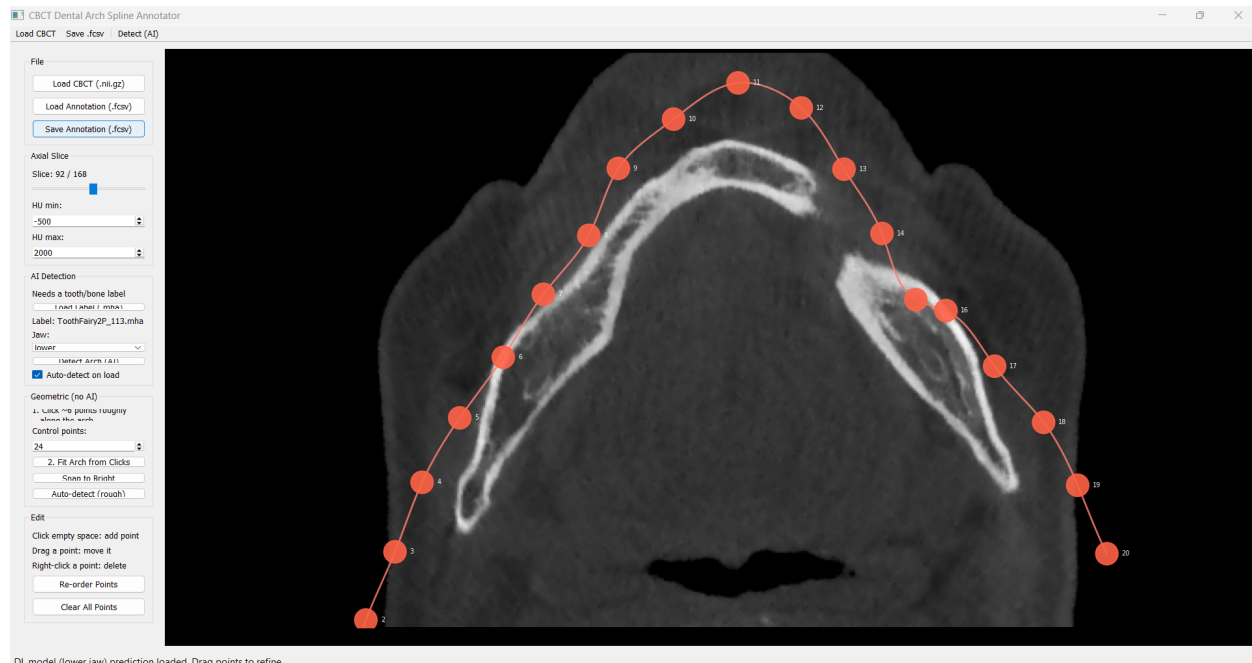


Fig 5e. Edentulous, lower jaw.

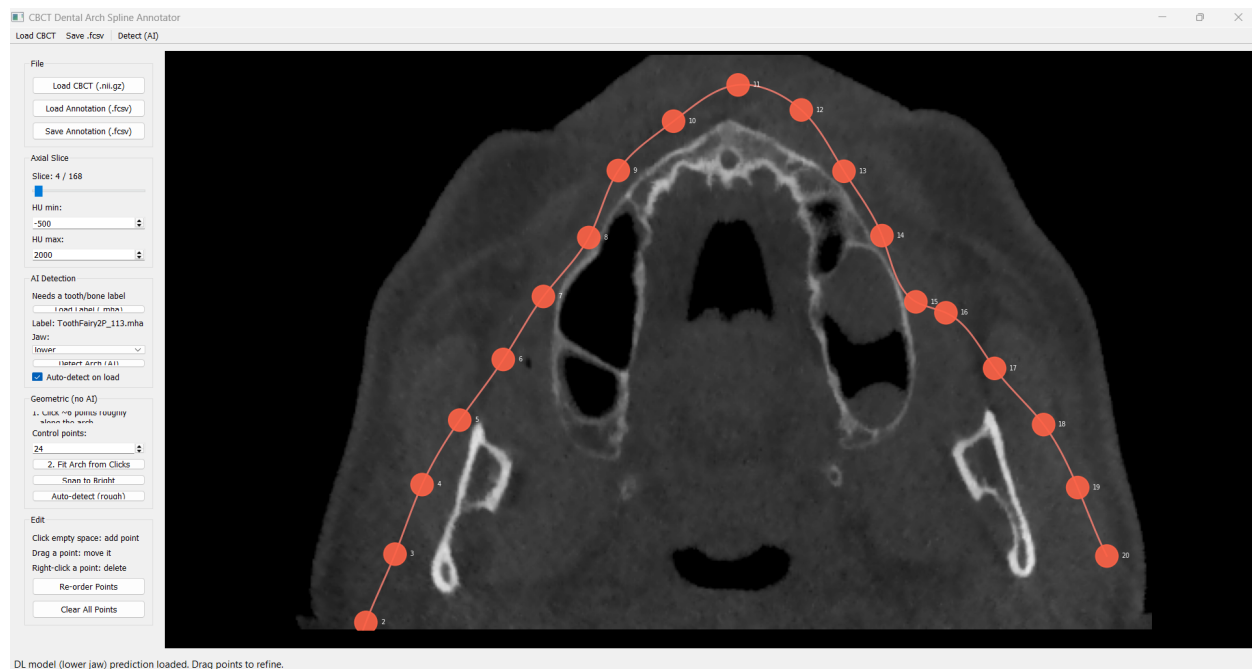


Fig 5d. Edentulous, upper jaw.

Fig 5. Additional cases. (a-b) Best PX comparisons showing Dolphin, 3D Slicer, route A, expert, and route C. (c) Worst case: no implants but largest error. (d) Heavy implant: model succeeds despite metallic projection. (e-f) Fully edentulous case: spline correctly placed on both jaws.