

Dataset structure:

This repository represents an open-access dataset including reconstructed geometries acquired from the cone-beam computed tomography (CBCT) of three patients' jaws for research purposes only. Each patient's data includes surface meshes of the mandible, full mandibular dentition, and associated periodontal ligaments (PDLs) stored in the Stereolithography (STL) file format.

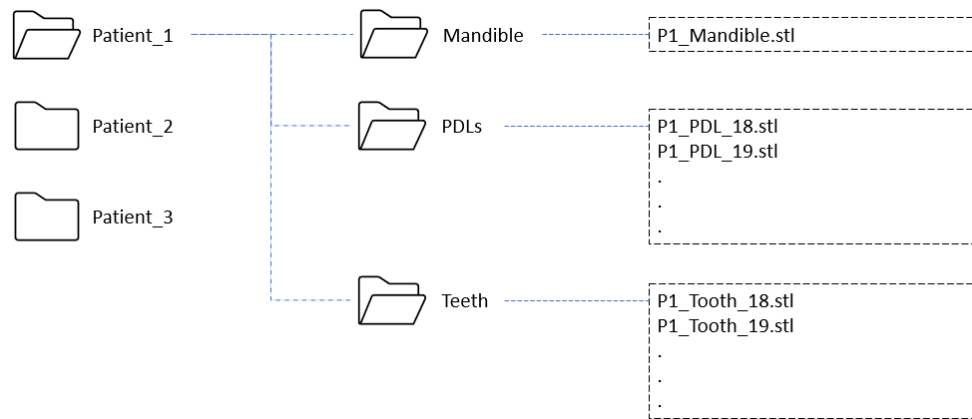


Figure 1. An overview of the dataset

A detailed description of the dataset format:

- Patient_[ID*]
 - o Mandible
 - [PatientID[†]]_{Mandible}.stl
 - o PDLs
 - [PatientID[†]]_{PDL}[ToothID[‡]].stl
 - o Teeth
 - [PatientID[†]]_{Tooth}[ToothID[‡]].stl

* ID = 1, 2, or 3

[†] PatientID can be P1, P2, or P3

[‡] ToothID denotes the identification number of the tooth based on the Universal Numbering (UNN) system and can change between 17 and 32 beginning from the left third molar to the right third molar.

Dataset usage policies:

This data can only be used for research purposes. Please make sure to cite the following papers:

- [1] Gholamalizadeh T, Darkner S, Søndergaard P, Erleben K. A multi-patient analysis of the center of rotation trajectories using finite element models of the human mandible. PloS one. 2021.
- [2] Gholamalizadeh T, Darkner S, Cattaneo PM, Søndergaard P, Erleben K. Mandibular Teeth Movement Variations in Tipping Scenario: A Finite Element Study on Several Patients. In Computational Biomechanics for Medicine 2021 (pp. 31-43). Springer, Cham.