

Interface Specification

<Algorithm>

1 Introduction

This document provides the detailed description of the interfaces between the Algorithm group and other groups.

2 Services

The Algorithm module can calculate cobb angles given the X-ray photo and the specific commands provided by the server.

2.1 Services Provided

Service	Provided By	Tested By
User can get all the important points of the bone	Support Point Model	
User can get all the supporting points that form the Cobb	Support Point Model, Location Model	
User can get all the calculated Cobb angle	Support Point Model, Location Model, Cobb Angle Model	

2.2 Access Method

Access Method	Parameter name	Parameter type	Description	Exceptions	Map to services
Support Point Model	keyPoint	ndarray	Shape: (batch size, points, coordinates) batch size is the number of pictures to be tested, points is the number of points, for each bone we		1, 2, 3

			have 4 points, and coordinates is the coordinate of each point.		
Location Model	locBone	ndarray	Shape:[batch size, 3, 2, 2] [the number of pictures in each batch, three cobb angles, corresponding two bones, coordinates of each bone]		2, 3
Cobb Angle Model	angleCobb	list	Shape:[batch size, cobb angles] batch size is the number of spinal X-ray to be tested. And for each X-ray picture we have three cobb angles.		3

2.3 Access Method Effects

Access Method	Description
Support Point Model	User can get all the important points of the bone. The output could be used for the Location Model.
Location Model	User can get all the supporting points that form the cobb. The output could be used for the Cobb Angle Model.
Cobb Angle Model	User can get the calculated cobb angle.

2.4 Services Required

Access Method	Parameter name	Parameter type	Description	Exceptions	Map to services
Support Point Model	imgPath cmdOpt	String array	Shape: [2] Parameter 1: image path Parameter 2: command		1, 2, 3

3 Local Types

Type	Value Space
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4 Interface Design Issues

None.