7MR10070: Software and Robotic Integration

Semester 2

Assignment 1

Written by Alexandros Megalemos

# Task 1

TODO

# Task 2

1. For each point in inputVolume:

Calculate the coordinates (x, y, z) of the point

Retrieve pixelValue of (x, y, z) in the image

If pixelValue == 1:

Add to result list

1. For each entry point in entry points:

For each target point in target points:

Get line between the two points

Get points on the line

validLine = true

For each point in the line:

If point passes through ventricles:

validLine = false

break

if validLine:

add (entry, target) point to validPoints list

1. For each entry point in entry points:

For each target point in target points:

Get line between the two points

Get points on the line

validLine = true

For each point in the line:

If point passes through blood vessel:

validLine = false

break

if validLine:

add (entry, target) point to validPoints list

1. For each valid entry-target point:

Get point that hits entry-target line with cortex

Get new line between entry-target line and new point

Get angle between new line and something

validLine = true

If angle <= 55:

Add entry-target point to valid points list

# Task 3

TODO

# Task 4

TODO