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Morphologic sub-classification of cervical tumors by using machine-learning techniques

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Cancer of Cervix

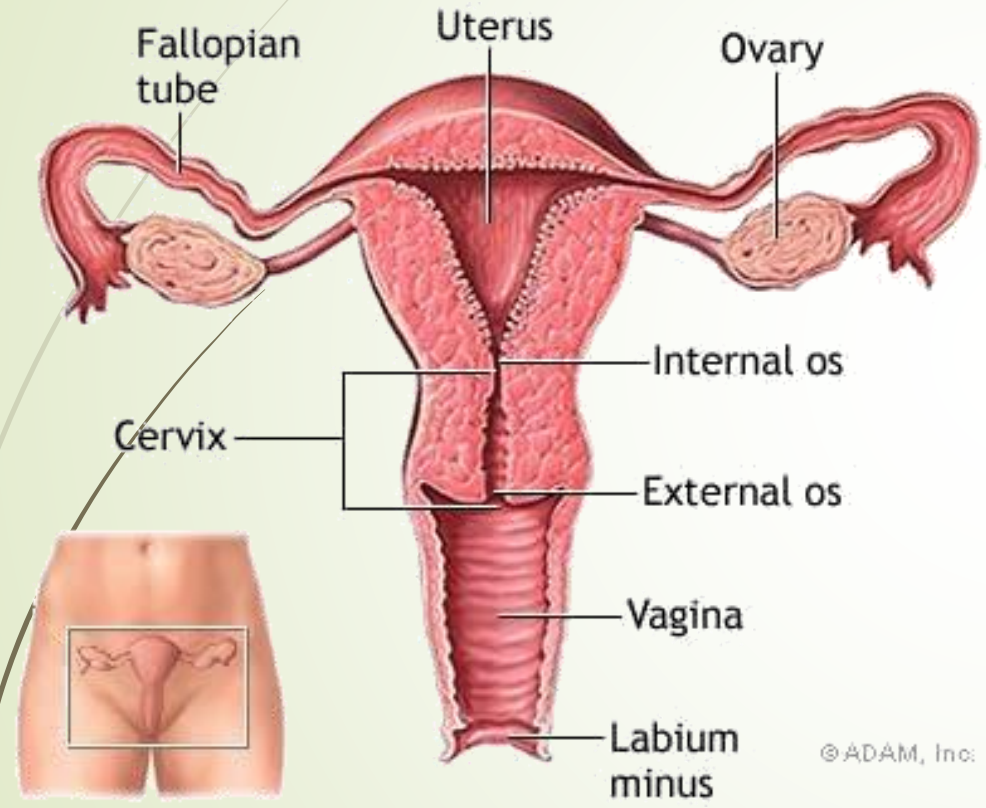


Figure 1: Cervix Location.

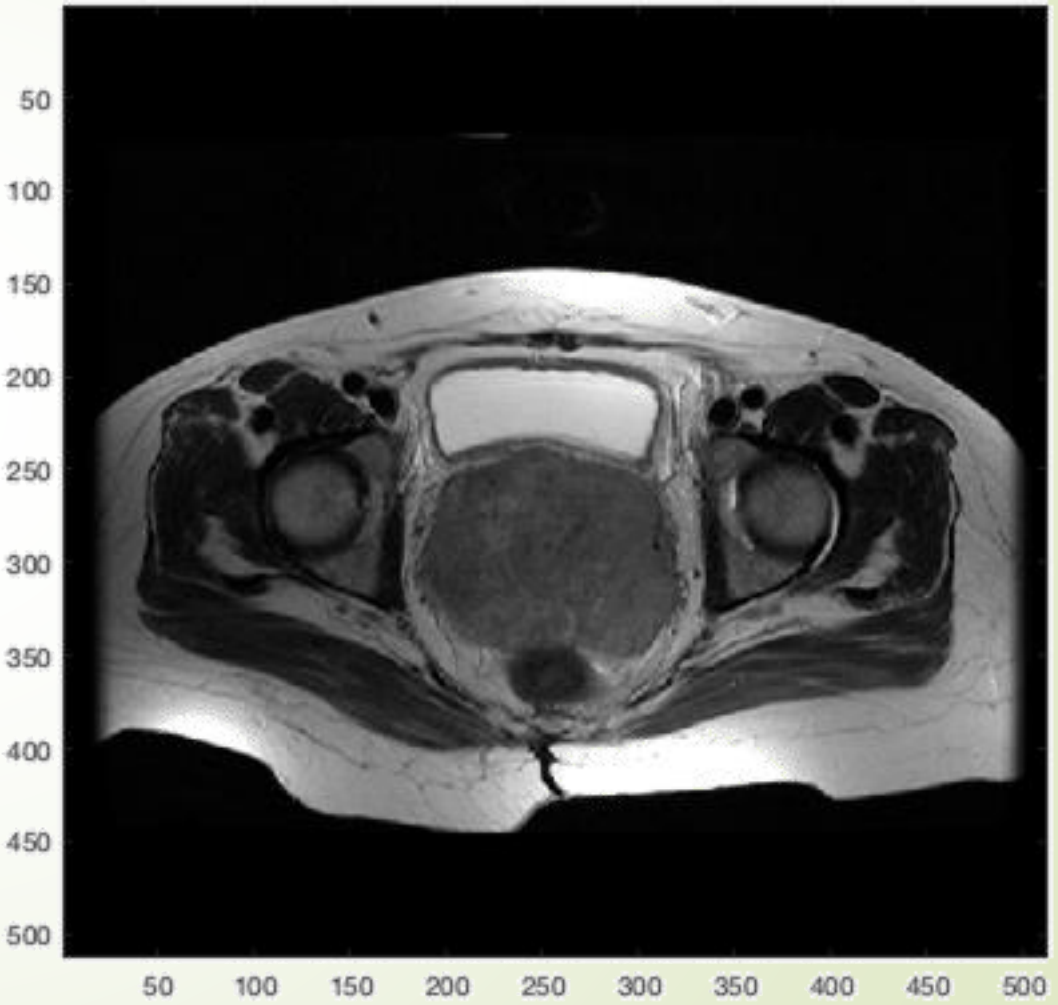


Figure 2: MRI slice example.

Cancer of Cervix

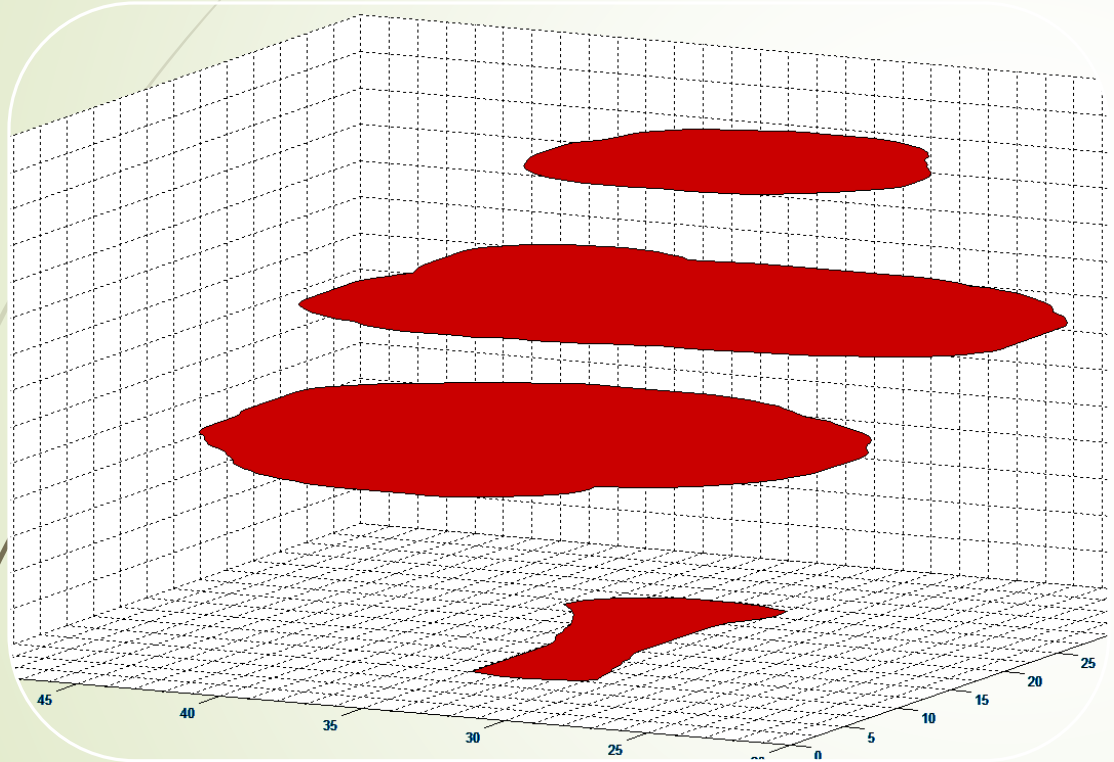


Figure 3: Tumor example.

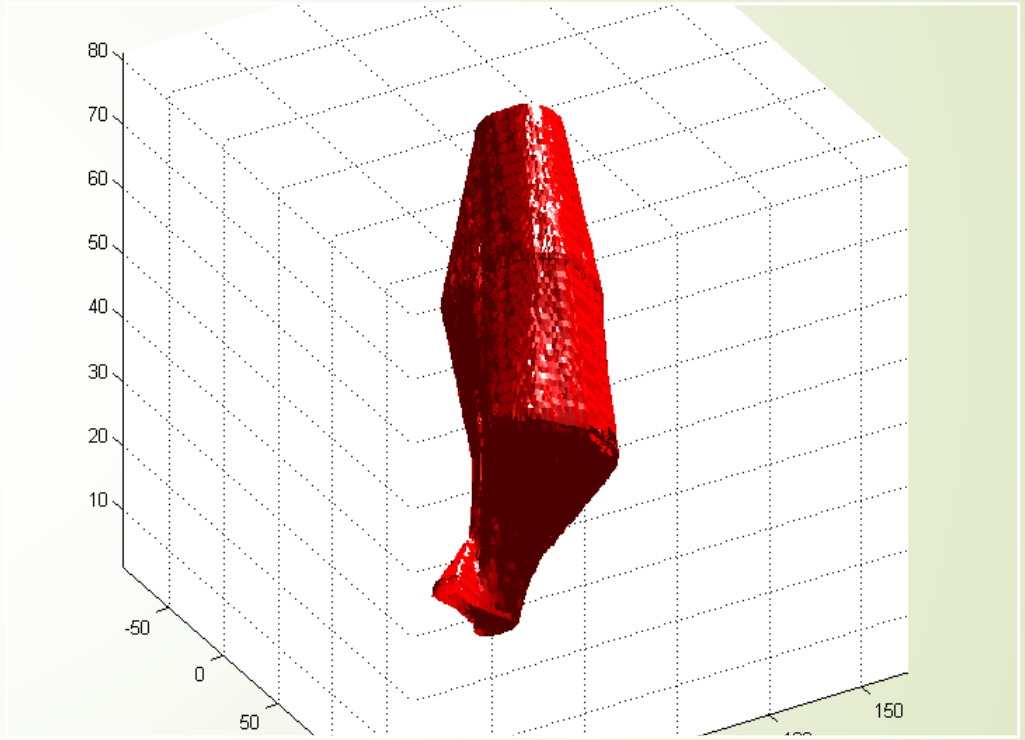
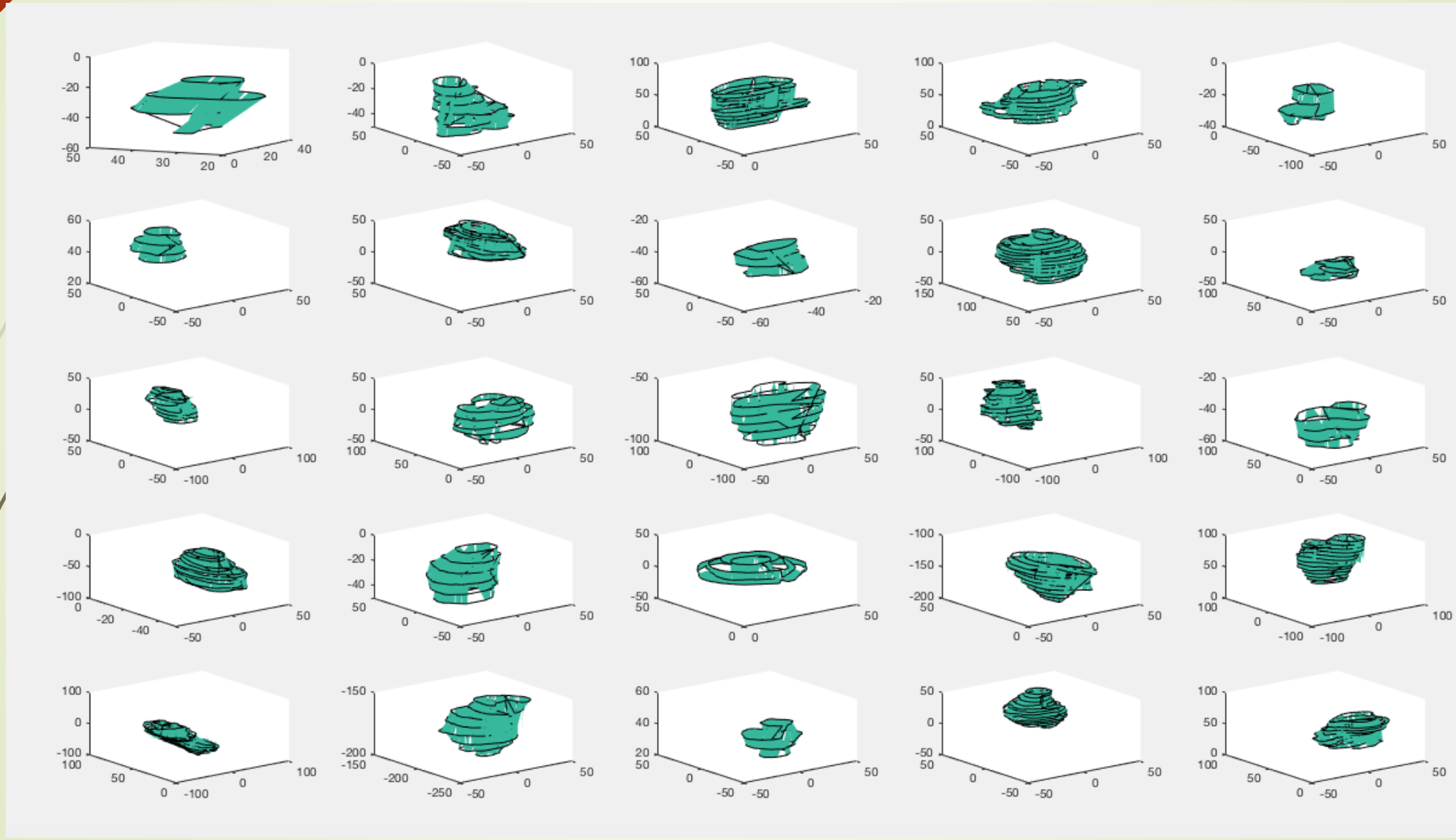


Figure 4: Rendered Tumor example.

Different pattern to look for



Morphological Analysis

- Volume Oncentra
- Radius
- Min Radius
- Max Radius
- Ratio min max Radius
- STD Radius
- Slice Max Area
- Slice Max Perimeter
- Surface
- Convex Slice Max Area
- Volume of Convex
- STD Radius / Normalized
- Difference between areas
- Max Difference between areas
- Circularity
- “Sphericity”
- Mean Curvature Perimeter
- Percent Curvature Perimeter
- Max Curvature Perimeter

Complexity of the problem

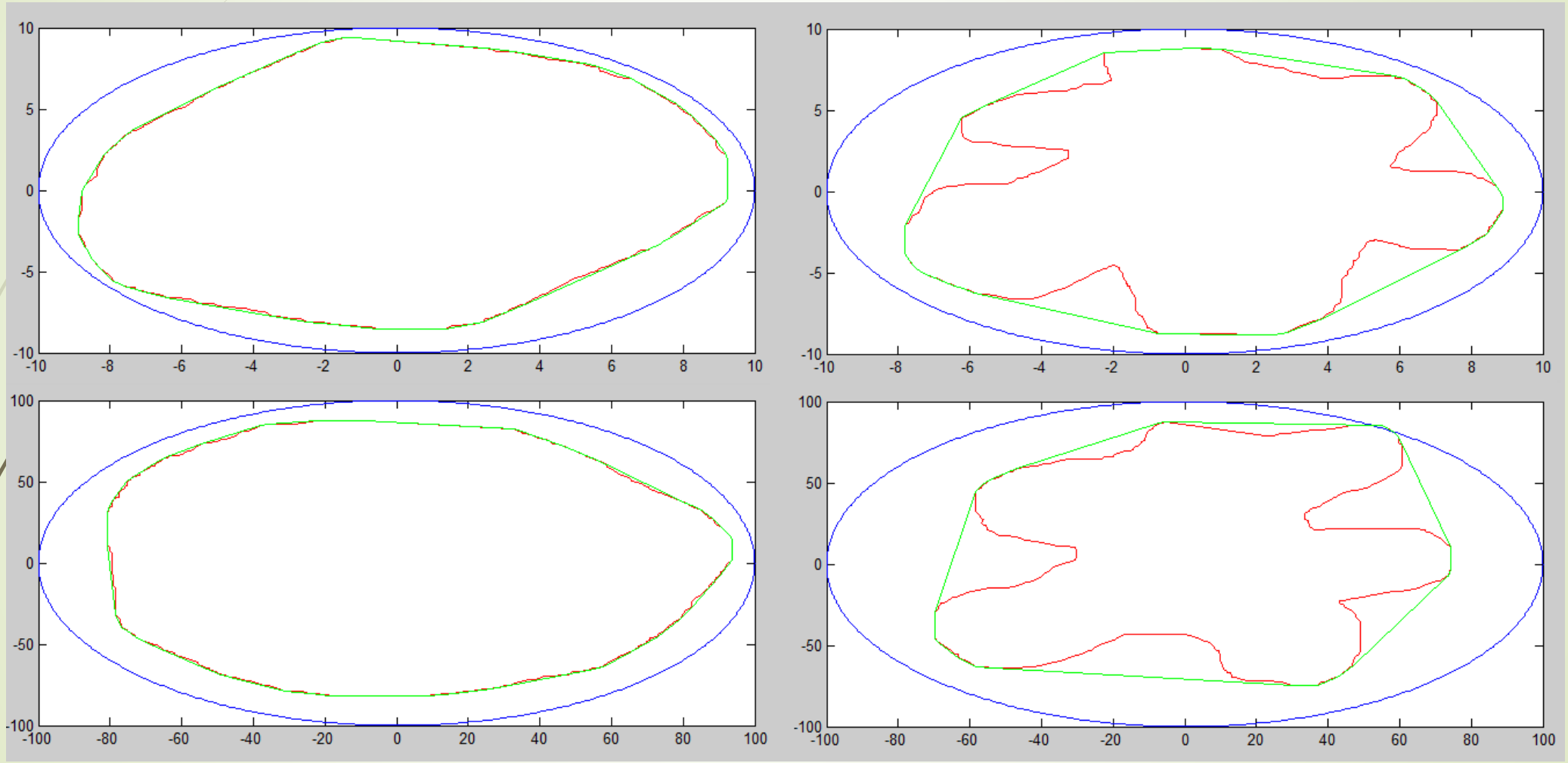


Figure 4: Example of Complexity of the problem.

Results

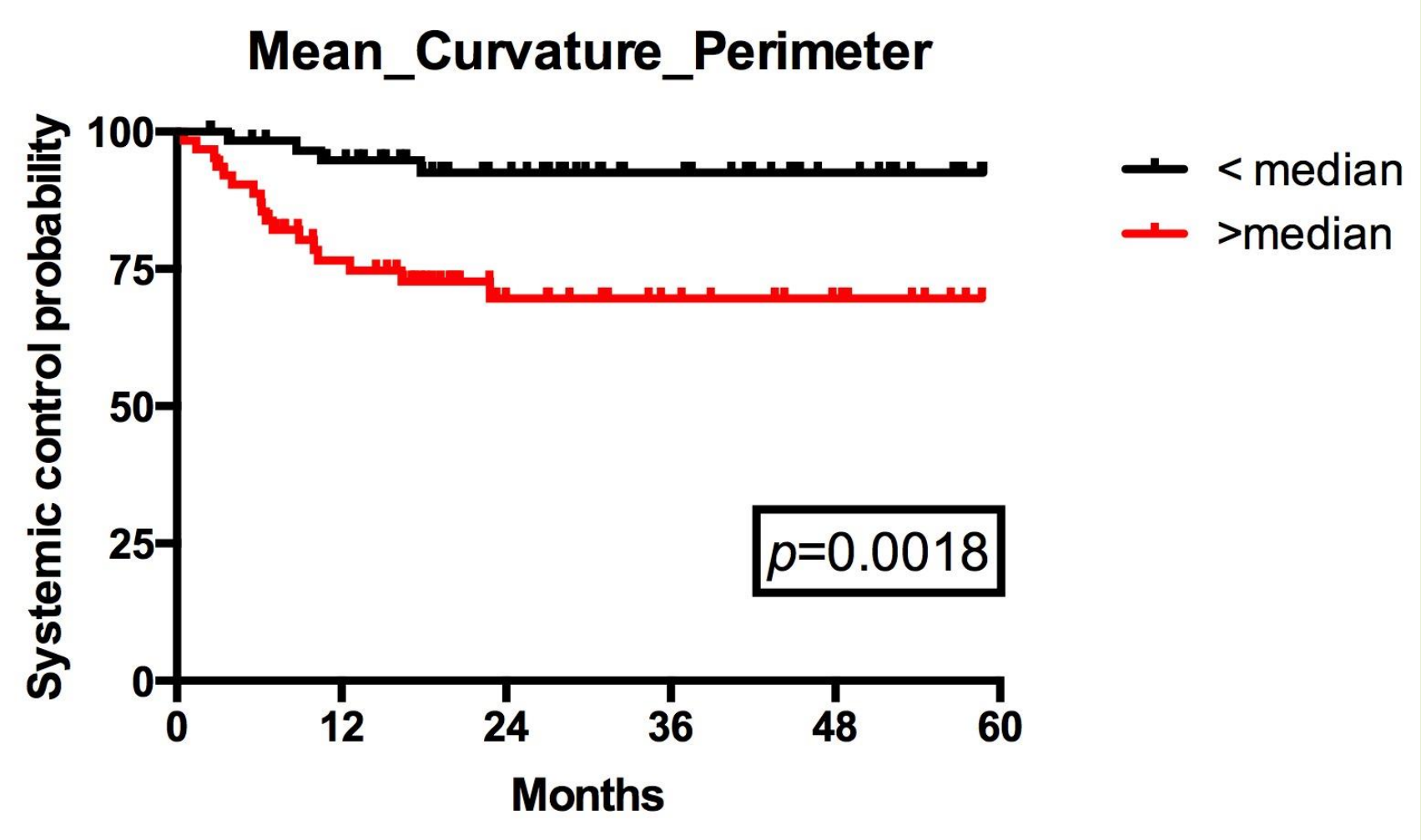


Figure 5: Kaplan-Meier of the atribute Mean Curvature Perimeter.

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