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SHAPE RECOGNITION: CONVEXITIES, CONCAVITIES AND THINGS IN BETWEEN

1. INTRODUCTION







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3. RESULTS

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- for either concavities or intermediate points.
- Performance for convexities remained constant as a function of segment length, and... ...although performance improved with segment length for concavities and intermediate points, it only reached convexity performance at the largest lengths tested. - This suggests that the longer segment lengths for concavities and intermediates enable an easier interpolation of points of convex curvature maxima, which might be used to recognize the shape.
- No significant differences between concavities and intermediate points were found. - No significant differences between the different shapes.
- Performance is scale-invariant.
- positions of either concavities or intermediates.

these points / red shapes in Figure).



Shapes are encoded from the positions of convexities, rather than from positions of either concavities or intermediates.





4. DISCUSSION

- Results show that for very short (dot-sized) segments lengths, performance was significantly higher for convexities than

- Results suggest that for this class of closed shapes, shape is encoded from the positions of convexities, rather than from

5. Rubber Band Model

The Model assumes that the shape is encoded by extracting the location of either convexities, concavities or interemdiate points and combines these points by staight lines to form a coarse polygonal Model Shape (i.e. putting a rubber band around

The hypothesis is that the resulting Model Shape captures/desribes the presented smooth Test Shape more acurately when convexities are presented and predicts poorer, but similar descriptions for concavites and interemdiate features. Each Model prediction was calcualted for 1000 shapes (Mean, ±STDEV)

6. Conclusion

References

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