

Capturing Outlines Of Planar Images By Cubic Spline Using Stochastic Evolution

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Summary

This paper is concerned with a new technique of curve fitting. The technique has various phases including extracting outlines of images, detecting corner points from the detected outline, addition of extra knot points if needed. The last phase makes a significant contribution by making the technique automated. It uses the idea of Stochastic Evolution to optimize the shape parameters in the description of the generalized cubic spline. It ultimately produces optimal results for the approximate vectorization of the digital contour obtained from the planar images.

References:

1. CARR JC, 2001, P SIGGRAPH 01, P6776
2. CHETRIKOV D, 1999, P 23 WORKSH AUSTR PA, P1751
3. GOSHTASBY AA, 2000, ACM T GRAPHIC, V19, P185
4. HORNG JH, 2003, PATTERN RECOGN LETT, V24, P565
5. HOU ZJ, 2002, NEW APPROACH EDGE DE, P1559
6. HOU ZJ, 2002, PATTERN RECOGN, V35, P1559
7. HU WC, 2005, IMAGE VISION COMPUT, P783
8. JUTTLER B, 2002, ADV COMPUT MATH, V17, P135
9. KANO H, 2005, APPL MATH COMPUT, P96
10. LAVOUE G, 2005, NEW SUBDIVISION BASE, P1139
11. MARJI M, 2003, NEW ALGORITHM DOMINA, P2239
12. MORSE BS, 2001, SMI 01, V8998
13. RECHE P, 2002, CORNER DETECTION MEA, V38
14. RICHARD N, 2002, PATTERN RECOGN, P1447
15. SAAB YG, 1991, P 27 ACM IEEE DES AU, P26

16. SARFRAZ M, 2000, IEEE INFOR VIS, P63
17. SARFRAZ M, 2002, P 6 INT C INF VIS
18. SARFRAZ M, 2004, 8 INT C INF VIS
19. SARFRAZ M, 2004, AUTOMATIC ALGORITHM, P1327
20. SARFRAZ M, 2004, INT J IMAGE GRAPHICS, P301
21. SARFRAZ M, 2007, P 22 ACM S APPL COM, P71
22. SARKAR B, 2003, PATTERN RECOGN LETT, V24, P2585
23. WANG W, 2004, TR200411 HKU CS
24. YANG H, 2004, CONTROL POINT ADJUST, P639
25. YANG X, 2004, CURVE FITTING FAIRIN, P461
26. YANG XN, 2001, PLANAR POINT SET FAI, P35
27. YANG Z, 2005, FITTING UNORGANIZED, P831

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