XIP

Boykov/Kolmogorov MaxFlow Software 2.22

This software implements the maxflow algorithm described by Boykov and Kolmogorov in the paper: "An Experimental Comparison of Min-Cut/Max-Flow Algorithms for Energy Minimization in Computer Vision", published In IEEE Transactions on Pattern Analysis and Machine Intelligence, September 2004.

An Experimental Comparison of Min-Cut/Max-Flow Algorithms for Energy Minimization in Vision

Product specification

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Product description

Minimum cut/maximum flow algorithms on graphs emerged as an increasingly useful tool for exact or approximate energy minimization in low-level vision. The combinatorial optimization literature provides many min-cut/max-flow algorithms with different polynomial time complexity. Their practical efficiency, however, has to date been studied mainly outside the scope of computer vision. The goal of the referenced IEEE paper was to provide an experimental comparison of the efficiency of min-cut/max flow algorithms for applications in vision, using several standard algorithms as well as the algorithm developed by the authors. In many cases the Boykov/ Kolmogorov algorithm worked several times faster than any of the other methods, making near real-time performance possible.

Note that the experimental results reported in this IEEE paper are based on the original implementation of the algorithm as developed by the authors during their time with Siemens. The algorirthm has since been fully re-encoded.

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System requirements

The software has been tested under the following:

- Windows
- Visual C++ 6.0 compiler
- Unix (SunOS 5.8 and RedHat Linux 7.0, GNU c++ compiler)

References

1. Kolmogorov, Boykov(2001) , http://www.csd.uwo.ca/~yuri/Papers/pami04.pdf, IEEE Transactions on Pattern Analysis and Machine Intelligence, 26, 359-374

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Software/Optimisation Software

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