Abstract

Developing multi-core computer technology made it practical to accelerate image processing algorithms via parallel running threads. In this study, performance evaluations for parallel image convolution filter on a multi-core computer using Java thread utilities was presented. For this purpose, the efficiency of static and the dynamic load scheduling implementations are investigated on a multi-core computer with six cores processor. Dynamic load scheduling overhead results were measured experimentally. Also the effect of busy running environment on performance which usually occurs on due to other running processes is illustrated by experimental measurements. According to performance results, about 5.7 times acceleration over sequential implementation was obtained on a six cores computer for various image sizes.

References

Performance Evaluations for Parallel Image Filter on Multi-Core Computer using Java Threads

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Index Terms

Computer Science

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Keywords

Parallel image filter   multi-core processing   load scheduling