Image Processing using Graph Laplacian Operator

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Background

- Large-scale application - millions of pictures processed by Google daily
- Image processing using spectral graph theory
- Involves linear algebra and solving linear systems
- Opportunity for high-performance computing and parallelism on dense matrix operations

Objective

- Not necessarily improving image processing
- Analyse the behaviour of solving large dense systems

- Large: N^2, N the number of pixels in the input pixels of image
- Dense: affinity and Laplacian matrices from image

Image processing

Implementation

Conclusion