

# GPU algorithms for image processing and computer vision

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## BACKGROUND INFORMATION

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*GPU Algorithms for Image Processing and Computer Vision*, to be published by Springer, will contain a collection of articles on fundamental image processing and computer vision methods adapted for Graphics Processing Units (GPUs). In recent years, substantial efforts were undertaken to adapt many such algorithms for massively-parallel GPU-based systems. The book is envisioned as a consolidation of such work into a single volume covering widely used methods and techniques.

Each chapter will be written by authors working on a specific group of methods. It will provide mathematical background, parallel algorithm, and implementation details leading to reusable, adaptable, and scalable code fragments. The book will serve as a GPU implementation manual for many image processing and analysis algorithms providing valuable insights into parallelization strategies for GPUs as well as ready-to-use code fragments with a broad appeal to both developers and researchers interested in GPU computing.

## CALL FOR CONTRIBUTIONS

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Researchers working on the development and implementation of methods for *image and video processing and analysis on GPUs* are invited to submit their work for consideration for inclusion in the book. Articles on the following broad topics are solicited:

- image and video processing
- computer vision
- pattern recognition and machine learning
- applications of image processing and computer vision

## TIMELINE

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Authors interested in contributing to this volume are asked to submit a short proposal via EasyChair by October 1, 2014. Authors of the accepted chapters are expected to write and submit to the editor completed chapters by January 1, 2015.

## PROPOSAL

- Due date: October 1, 2014
- What to submit
  - Author(s) name, address, affiliation, email

- The proposed chapter title
- Chapter outline and brief (<1000 words) description of the method to be implemented, the algorithm, and its CUDA and/or OpenCL implementation, and the description of the source code to be supplied.
- Estimated number of pages/words/figures/source code size.
- How to submit
  - Via EasyChair to <https://www.easychair.org/conferences/?conf=cvgpu15>.
    - Use “Abstract” field for the brief description of the method, etc.
    - Use “Keywords” field for estimated number of pages, etc.
    - Feel free to attach any additional papers as a single PDF or Word file, such as journal/conference papers, that may be useful in evaluating the chapter proposal.
- What to expect
  - Submissions will be reviewed for compliance with the subject and scope of the book.
  - Authors will be notified by mid-October if their book chapter proposals are acceptable for inclusion in the book.

## CHAPTER PREPARATION

Authors of the accepted/invited chapters are expected to write and submit to the editor completed chapters by January 1, 2015.

The submissions will be reviewed for completeness and quality and the final revisions are due to the publisher (Springer) by February 1, 2015.

## PRODUCTION

Authors are expected to work with the publisher production team to finalize the publication in Q1-Q2 of 2015.

## FINAL NOTES

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The book will be published by Springer. The authors should submit previously unpublished text. The publisher will copyedit the manuscripts and the authors will be required to proofread the final manuscripts. Authors of individual chapters will be required to sign a copyright agreement with the publisher.

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