

Call for Papers

Canadian Journal of Electrical and Computer Engineering

Special Issue on Computer Vision

GUEST EDITORS

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Since its first developments in the late 60's, Computer Vision has been the object of intensive research efforts worldwide. The dream of making machines see and think, although far from being fulfilled, has driven researchers to study a wide area of topics including sensor design, image processing and image understanding, pattern recognition, perception, psychophysics, as well as special purpose computer architectures for vision. Computer Vision is a key technology that finds application in industrial inspection, quality control, robotics, medicine, document processing, and arts & entertainment.

Over the past years, and with the help of spectacular advances in the fields of sensor development and computer processing power, Computer Vision has found new areas of application such as content-based image retrieval, human-machine interfaces, Web applications of vision systems, image compression, virtual and augmented reality, face recognition, surveillance, and heritage applications. However, even though "cameras are everywhere", Computer Vision still faces exciting challenges in making these cameras see and understand their environment in real-time. Vision systems found in Nature are not only difficult to understand but are also difficult to replicate in terms of simplicity and performance.

The emphasis of the special issue will be on advances in the state-of-the-art of research in Computer Vision. We solicit papers in the following three main categories—survey/tutorial, industrial/applications, and research/technical. The topics of interest include but are not limited to:

- Vision sensors (2D, 3D), Sensor calibration
- Image compression
- Image segmentation and image understanding
- Content-based image retrieval
- Object and scene modelling
- Vision-based object recognition
- Biometrics
- Motion analysis and description
- Document processing and Handwriting Recognition
- Processing architectures for vision
- Computer Vision in medicine, industry, entertainment, virtual and augmented reality
- Computer Vision-Based Human-Machine Interfaces
- Perception and Psychophysics
- Biological vision systems

Only original and unpublished research articles (not being considered for publication elsewhere) will be considered. Submitted manuscripts should be no longer than 20 double-spaced pages, excluding illustrations and graphs (the maximum number of figures and tables is limited to 10). There will be one round of reviews only and acceptance will be limited to papers needing only moderate revisions.

Prospective authors should submit a PDF version of their complete manuscript (as an email attachment), according to the following timetable, to either one of the guest editors.

SCHEDULE

Start of submission: 20 October 2004

Submission deadline: 31 May 2005

Acceptance notification: 30 August, 2005

Final manuscript due: 30 October, 2005

Publication date: January 2006 Issue