SEMINAR NOTICE:

A Biologically-Inspired Approach to Classic Computer Vision Problems

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Wednesday, June 13
2:00 p.m.
CSL 301

Abstract:

Even though important advances have taken place in the fields of Computer Vision and Image Processing the past decades, the Human Visual System (HVS) still outperforms artificial vision systems in many tasks. The main reason for this is the fact that biological vision systems have been evolving and optimizing for millions of years. As a result, many answers to classic Computer Vision and Imaging problems lay within the neural connections of the HVS. Consequently, looking into visual neuroscience and psychophysics, can point to new directions in Computer Vision and Image Processing. This lecture will mainly focus on solutions for the classic problems of Image Enhancement, Document Binarization and Salient Contour Detection, derived by adopting strategies and characteristics of the HVS.

Biosketch:

Vassilios Vonikakis was born in 1977. He received the diploma on Electrical and Computer Engineering from the Democritus University of Thrace (DUTH), Greece, in 2002, and the PhD degree in 2008, respectively. He has previously worked as a researcher for the University of Rome "Sapienza" and the CRAS Institute of Aerospace Research. He currently works as a Post-Doctoral fellow in the Advanced Digital Sciences Center (ADSC), Singapore. His research interests include Biological Vision Systems, Computational Photography and HDR imaging.