UNIVERSITY OF SOUTH FLORIDA

Defense of a Doctoral Dissertation

Direct Solutions to Perceptual Organization Problems

by

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For the Ph.D. degree in Computer Science & Engineering

Nano-magnets offer an alternative to traditional form of digital computing by offering a direct way to solve quadratic energy minimization problems. Collection of nano-magnets, when driven to their ground states, can be seen to optimize a quadratic energy function whose form is determined by their relative placements. This research presents analytical model for magnetic-field-based computing and results for quadratic minimization problem in the context of perceptual organization of edges in computer vision.

> Wednesday, October 28, 2015 1:30 PM ENB 313

THE PUBLIC IS INVITED

Examining Committee

Manish Agrawal, Ph.D., Chairperson. Sudeep Sarkar, Ph.D., Co-Major Professor. Sanjukta Bhanja, Ph.D., Co-Major Professor. Srinivas Katkoori, Ph.D. Xiaoning Qian Ph.D. Clifford R. Merz, Ph.D.

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