THE UNIVERSITY OF CHICAGO

Department of Statistics

SECOND YEAR PHD MINI SEMINARS

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A Statistical Model for Posture Detection of Worms

THURSDAY, May 9, 2013, at 4:00 PM
110 Eckhart Hall, 5734 S. University Avenue

ABSTRACT

I will present a global, generative, statistical model for postures of worms. The model is formulated in terms of mid-level oriented features, based on intensity-invariant oriented edges, with robustness to small deformations. I will then present a single-frame based, coarse-to-fine detection algorithm that scales well to tens of thousands of images. First the gross midline of the worm is quickly identified and subsequently its sidelines are extracted via dynamic programing. The performance of the method will be demonstrated on images of the nematode C. *elegans*. This is a collaborative project with David Biron's neuroscience group.
