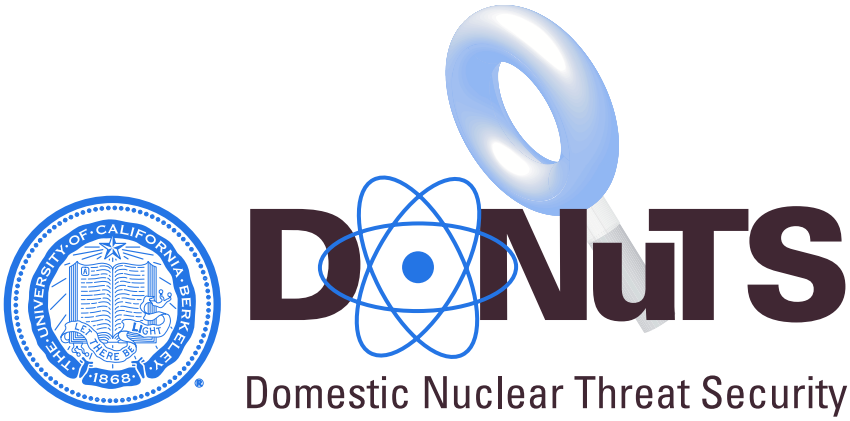

DoNuTS Technical Meeting

Time: **1600 Wednesday, 2 December 2009**

Place: **NE Conference Room, 1106 Etcheverry**

Speaker: **Barak Fishbain, UC Berkeley IEOR**

Subject: **Video segmentation through joint utilization of intensity and coarse motion data as a case study for video and noisy data integration for better detection**

A video segmentation scheme that separates a salient target region from its background is presented here. The video segmentation task is cast as a graph-cut problem (a variant of normalized-cut), incorporating intensity and motion data into the formulation. We solve this problem optimally by using the efficient Hochbaum PseudoFlow (HPF) algorithm. The presented method is highly robust in that it allows to utilize noisy and coarse data, such as MPEG-4 motion estimation scheme, for the segmentation. Previously reported algorithms using motion for video segmentation incorporated optical flow methods. These methods are computationally intense, which makes them unsuitable real-time applications. Using MPEG-4 motion estimation scheme results in near real time execution. Tests on real-life benchmark videos clearly show that this technique is more efficient than existing techniques and delivers good quality results.