

Le prochain séminaire de l'équipe A3SI du LIGM (unité mixte de recherche de l'Université Paris Est) aura lieu le **Vendredi 24 juin de 13h30 à 14h30, salle 110** ([ESIEE PARIS](#)).

## Super-Labels and Hierarchical Label Costs

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**Abstract:** The first part of the talk will be about a simple segmentation functional similar to Boykov-Jolly / GrabCut, The standard setup includes a GMM for foreground label, another for the background, and an MRF for regularization. Everyone agrees that the MRF aspect is important, because without it the pixels are assumed i.i.d. and this is simply not a good model for natural images. However, if the i.i.d. assumption is inappropriate for generating an image, then it is equally inappropriate for generating complex objects \*within\* the image (person, car), and yet this is what the standard setup entails. I'll talk about how to do better using a "2-level MRF" defined over "super-labels." The second part of the talk will present some unpublished work on energies with a hierarchy of "label costs" and how to optimize them effectively. Such energies facilitate a kind of "hierarchical MDL" criterion and should be useful in detecting multiple objects, motions, homographies, and much more. I'll briefly demonstrate a way to detect repetitive patterns using this framework.