Two key components in modeling

- **Graphical Model**
  - **Markov Random Field of tracklets**
  - **Goal**: Identifying semantic regions of crowded scenes from tracklets
  - **Challenge**: how to learn semantic regions from such noisy trajectories caused by scene clutter, very noisy.
  - **Semantic regions**: pathways commonly taken by objects in scene.
  - **Region of Interests**: Entry and exit locations of the scene, initial position and ending position of people.

- **High-level correlation**: dependencies among several tracklets
  - I. temporal overlap; II. spatial overlap; III. velocity overlap.

- **Source and sink**

  - **Source Sink**

- **Experimental Results & Applications**
  - **Statistics of the tracklets captured from the scene**
  - **Learned semantic regions**
  - **Trajectory clustering**
  - **Potential applications**
    - people flow transition ratios
    - people prediction: future path