

## Some ideas that were mentioned in the last LAB by the other groups

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### 1. Preprocessing

- 1.1. Normalizing thermal images
- 1.2. Histogram equalization
- 1.3. Histogram stretching
- 1.4. Normalizing each RGB channel
- 1.5. (NDI filter)
- 1.6. Ostu's method
- 1.7. RGB thresholding ( find the best threshold )
- 1.8. Morphological operations (opening, close,...)
- 1.9. Mean/median filters



### 2. Fruit Detection

- 2.1. Speeded up Robust Features
- 2.2. Circular Half Transform (maybe Half circle)
- 2.3. Blob Detection
- 2.4. Blob Analysis
- 2.5. Condition for valid peaches ( maybe compute probabilities by combining thermal and RGB pictures) – weighting

### 3. Fruit Counting

- 3.1. Euclidian distance
- 3.2. Blob count
- 3.3. Elbow method (heuristic!)
- 3.4. Count circles found by CHT

### 4. Fruit Tracking

- 4.1. Kalman filter
- 4.2. Distance threshold for matching
- 4.3. SfM to project peaches into 3D and reject double counts (maybe there are no 3D points for some peaches – how to handle them ? )