

# Panorama and Facial Analysis

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**General Ideas:**

1. Panorama image stitching
  - a. Given multiple image fragments, stitch them together to form a panorama.
2. Facial Recognition
  - a. When the produced panorama contains one or multiple faces, recognize the faces and put boxes around them.
3. Gender and Age Recognition using Neural Network
  - a. Given the face image obtained in Facial Recognition, predict the gender and the age of the person.
4. Identity Recognition using SIFT
  - a. Facial Recognition will produce all the faces in the original panorama image. Within all these faces, we wish to detect a specific person.

**Difficulties:**

- Results generated by panorama algorithm may not be consistent, which may lead to erroneous results in facial recognition process.
- Biases in training data sets of the facial recognition process may cause unpredictable results.
- SIFT algorithm is relatively not robust against objects with different orientations.