

# Motivation

Recently human-computer interaction has been adapting a gradual shift from usage of mouse and keyboard to touch or camera based "input" mechanisms, and henceforth a lot of work is being done to improve the hand-gesture and face recognition from the camera based input.

- Depth analysis (Kinect)
- Pattern analysis

being the broader classification of the recognition techniques.

# Proposal

Our project proposal falls in the pattern analysis domain, where we try to improve the contour generation of a required area, say a hand, from an input video stream.

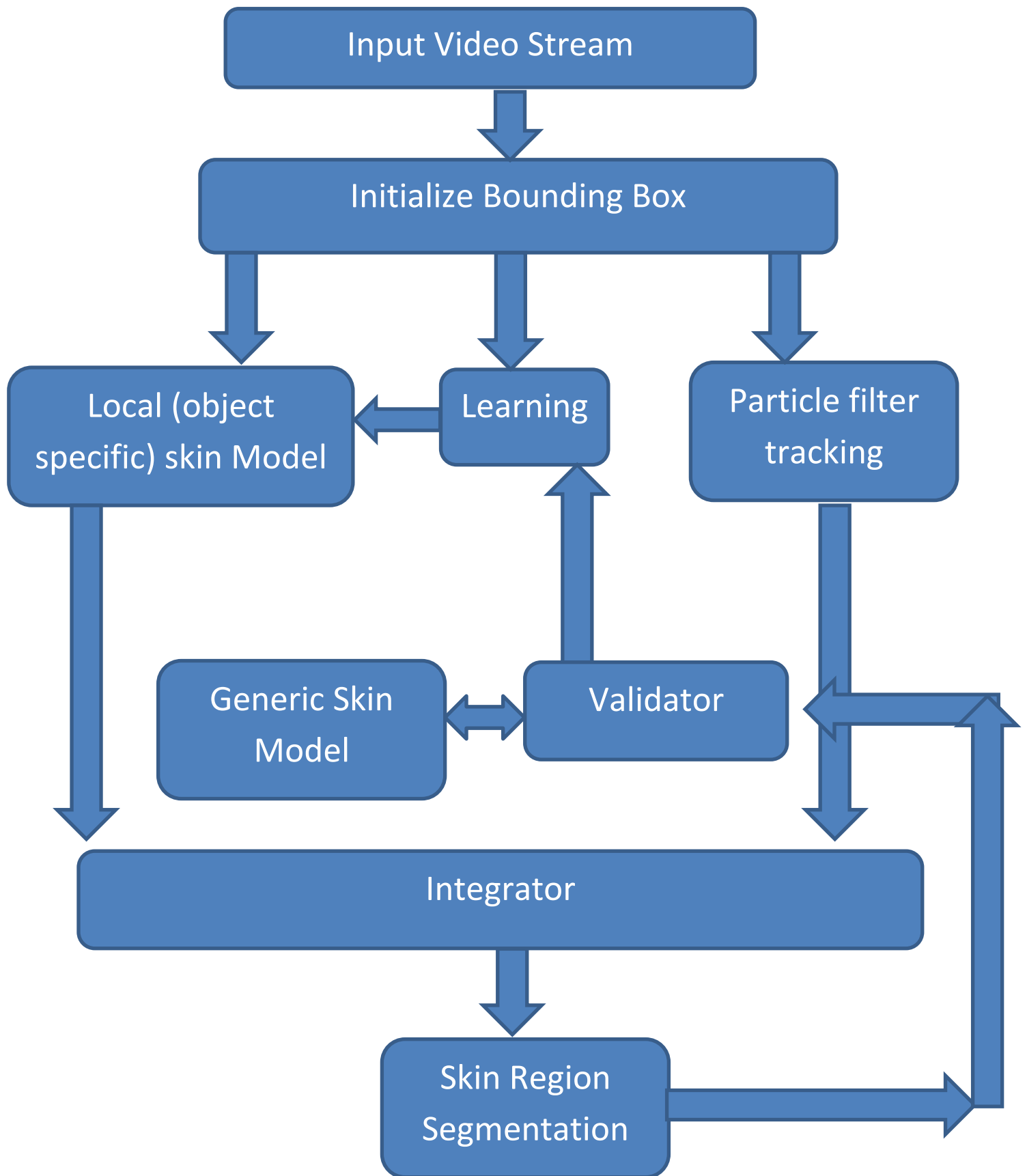
We therefore propose an algorithm, that makes use of the

- Skin colour modeling, and
- Particle filtering with online training

to achieve the objective.

Feature's expected:

- 'Real time training' to improve the "skin model"
- 'Particle filtering' to have a more robust analysis even in densely populated background
- 'Skin modeling' to improve accuracy of contour(e.g. occlusion of hand with any other object can be precisely determined)



# References

- Robust Visual Object Tracking Using Multi-Mode Anisotropic Mean Shift and Particle Filters -Zulfiqar Hasan Khan, *Student Member, IEEE*, Irene Yu-Hua Gu, *Senior Member, IEEE*, and Andrew G. Backhouse
- FACE-TLD: TRACKING-LEARNING-DETECTION APPLIED TO FACES by Zdenek Kalal y, Krystian Mikolajczyk y, Jiri Matas