SIFT

1. Scale space extrema detection
2. Key point localization
3. Orientation assignment
4. Descriptor construction

Scale space extrema detection

1. Compare pixel with 26 pixels
2. Select a pixel as an extremum if it is larger than others

Key point localization

1. Sub-pixel localization and removal of extrema points with low contrast
2. Delete edge-like features by calculating curvature

Orientation Assignment

1. 16\*16 window
2. Edge orientation for each 2\*2 block
3. Throw out weak edges
4. Create histogram by accumulating gaussian weighted edge magnitude