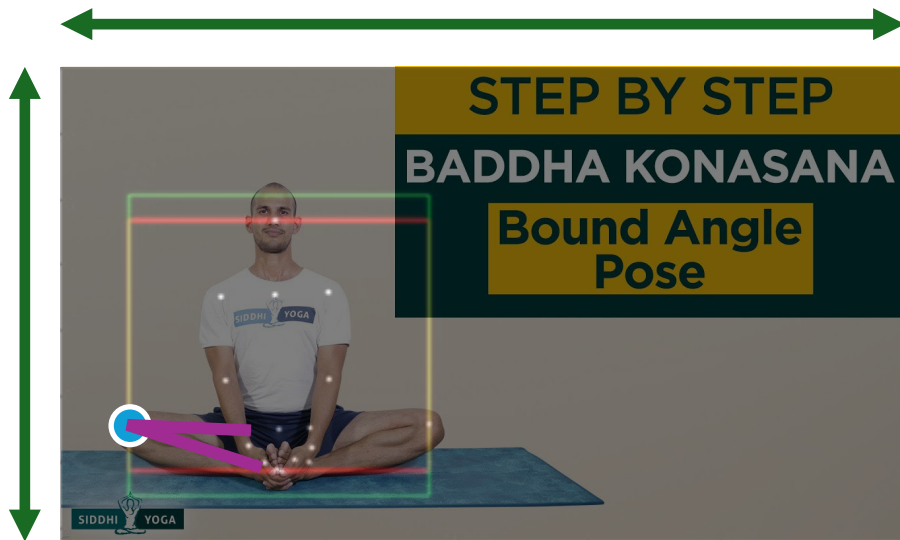# Yoga Pose Classification
by OCR Method
Recognizing A Pose as A Character

Objective

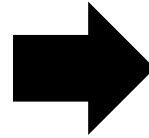Classify yoga pose
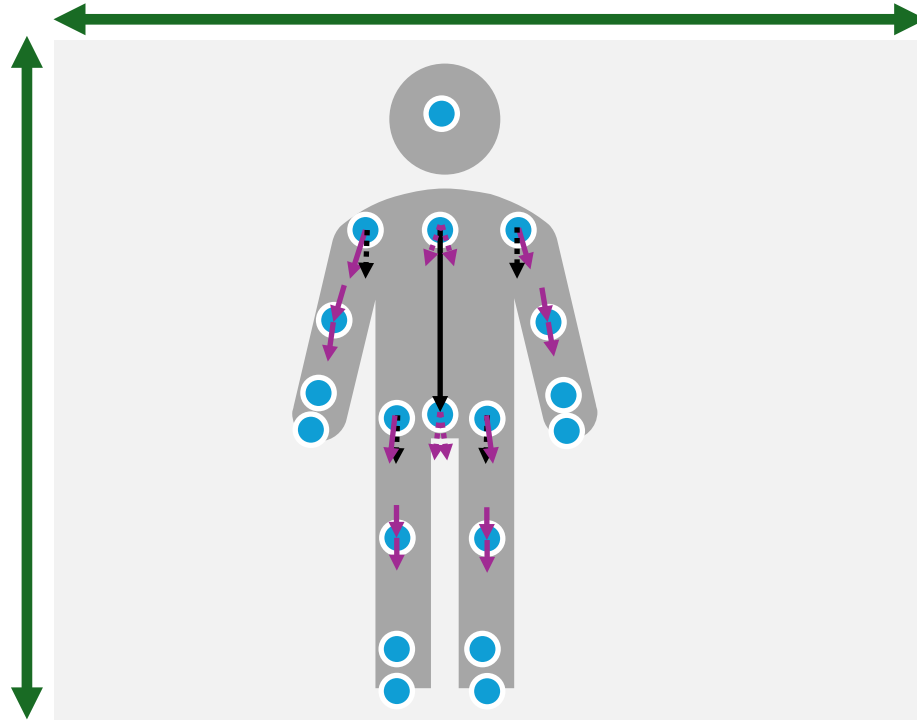

Input:
Key points' position
Key points' angle
Image size

Output:
Pose number

Dataset

Key points' position (38 numbers)
Key points' angle (10 numbers)
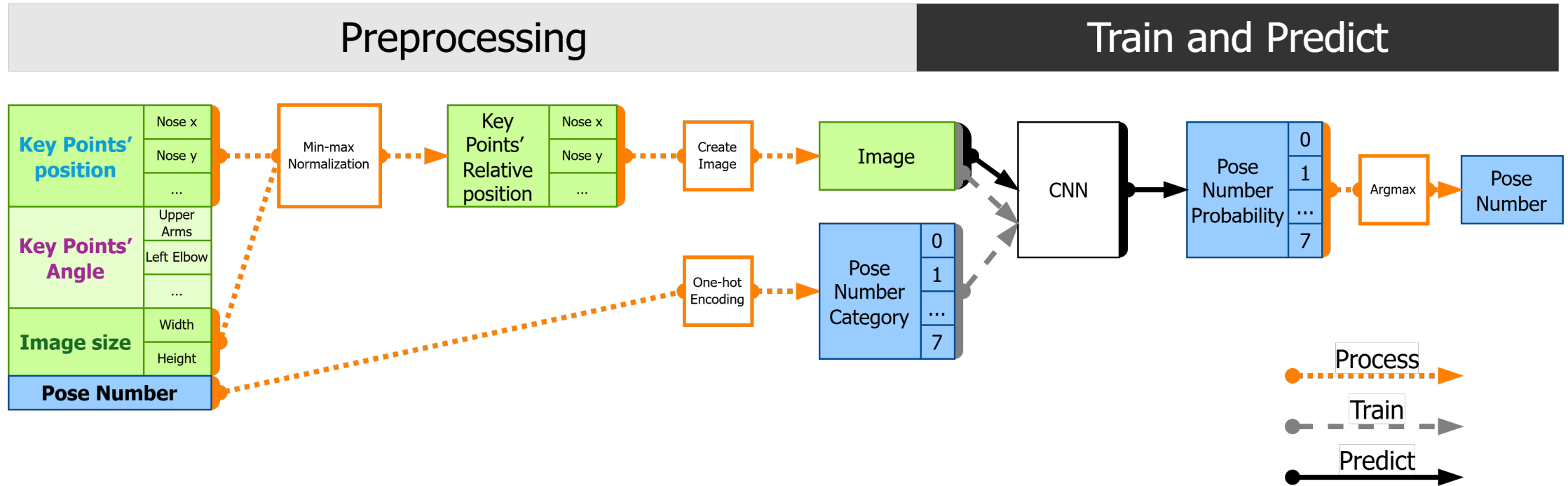Image size (2 numbers)
Pose Number (1 number)

Dataset's columns

NOSE_x,NOSE_y,
LEFT_SHOULDER_x,LEFT_SHOULDER_y,
RIGHT_SHOULDER_x,RIGHT_SHOULDER_y,
LEFT_ELBOW_x,LEFT_ELBOW_y,
RIGHT_ELBOW_x,RIGHT_ELBOW_y,
LEFT_WRIST_x,LEFT_WRIST_y,
RIGHT_WRIST_x,RIGHT_WRIST_y,
LEFT_INDEX_x,LEFT_INDEX_y,
RIGHT_INDEX_x,RIGHT_INDEX_y,
LEFT_HIP_x,LEFT_HIP_y,
RIGHT_HIP_x,RIGHT_HIP_y,
LEFT_KNEE_x,LEFT_KNEE_y,
RIGHT_KNEE_x,RIGHT_KNEE_y,
LEFT_ANKLE_x,LEFT_ANKLE_y,
RIGHT_ANKLE_x,RIGHT_ANKLE_y,
LEFT_FOOT_INDEX_x,LEFT_FOOT_INDEX_y,
RIGHT_FOOT_INDEX_x,RIGHT_FOOT_INDEX_y,
CENTER_HIP_x,CENTER_HIP_y,
CENTER_SHOULDER_x,CENTER_SHOULDER_y,
Angle_upper_arms,
Angle_elbow_L,
Angle_elbow_R,
Angle_thighs,
Angle_knee_L,
Angle_knee_R,
Angle_shoulder_L,
Angle_shoulder_R,
Angle_hip_L,
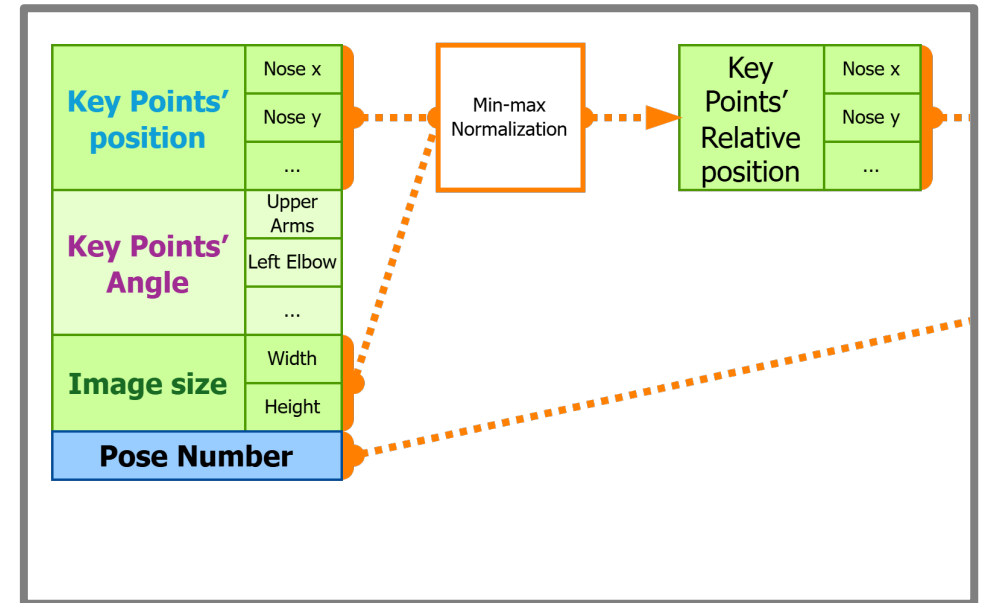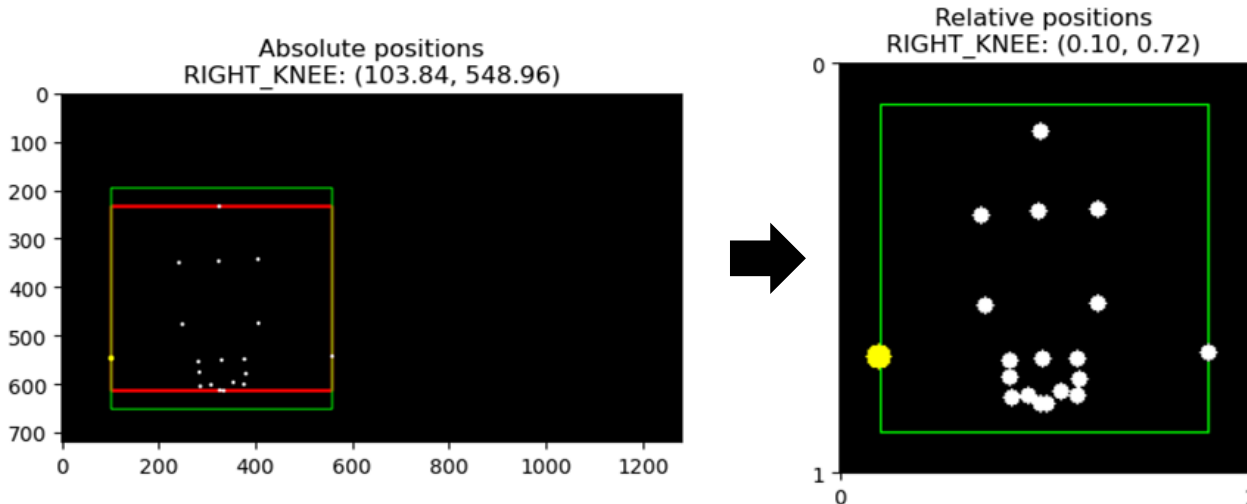Angle_hip_R,
width,
height,
pose_num

Created from This Dataset

https://github.com/Manoj-2702/Yoga_Poses-Dataset

Architecture

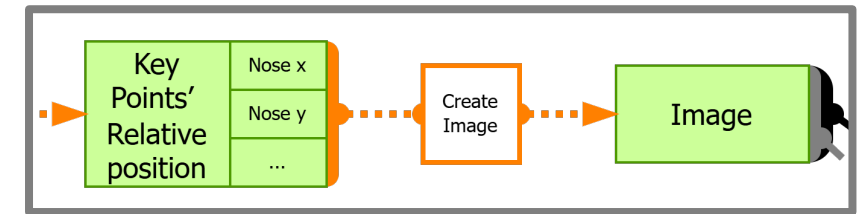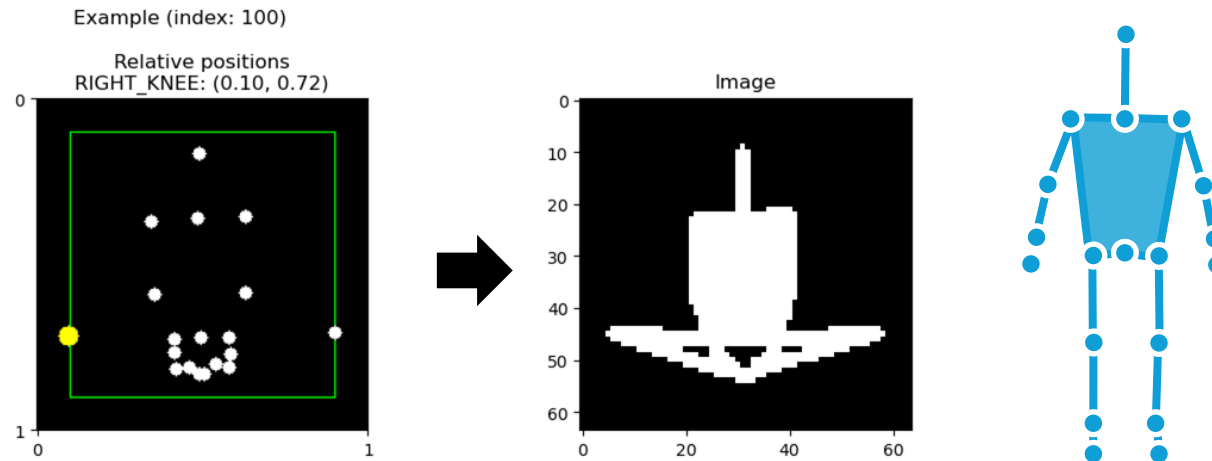# Calculate relative positions

Calculate relative positions
  Find squared bounding box (green line)
  Min-max normalization
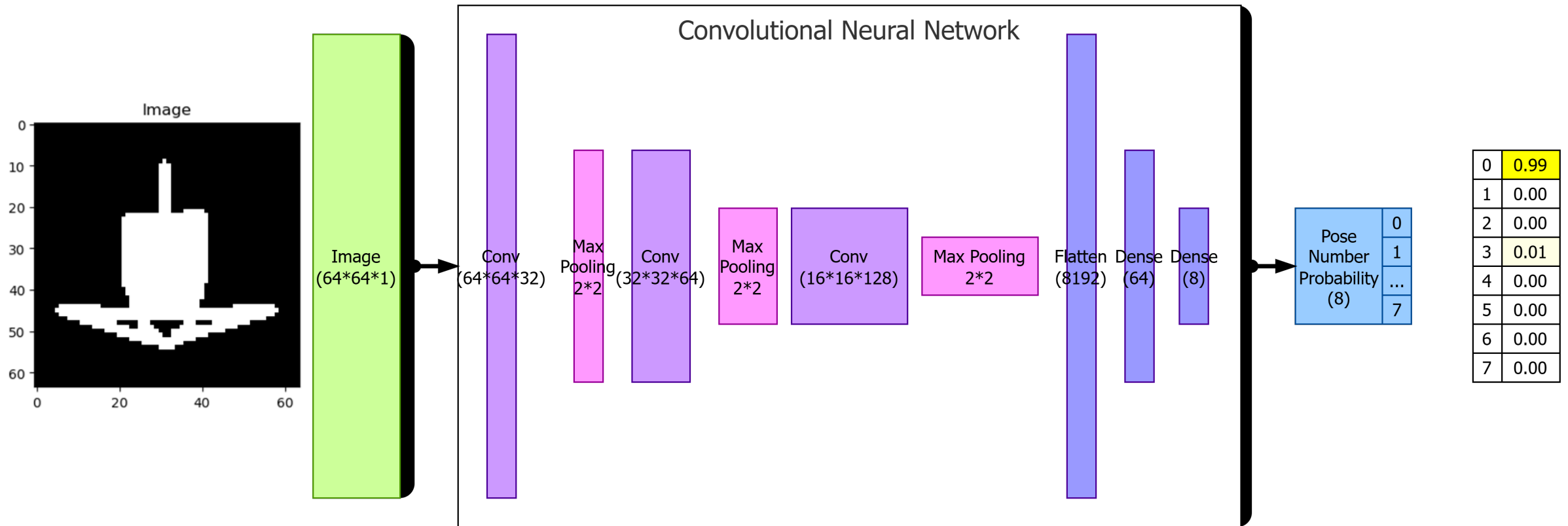   Set min-max to 0.1-0.9 in order to set padding

Create Image

64(width) * 64(height) * 1(Gray scale)
Draw lines and polygons

CNN for OCR

Result