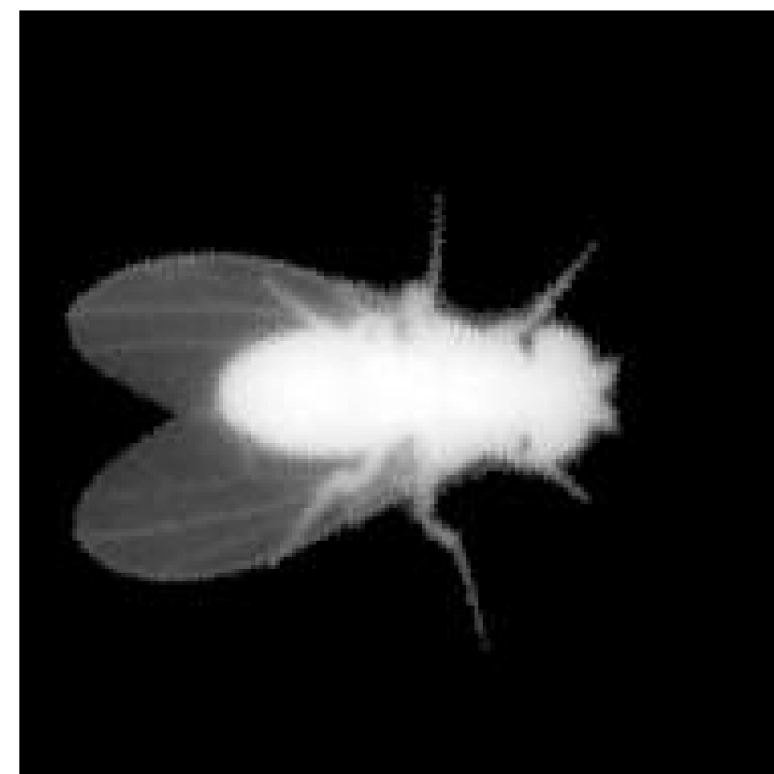


input image

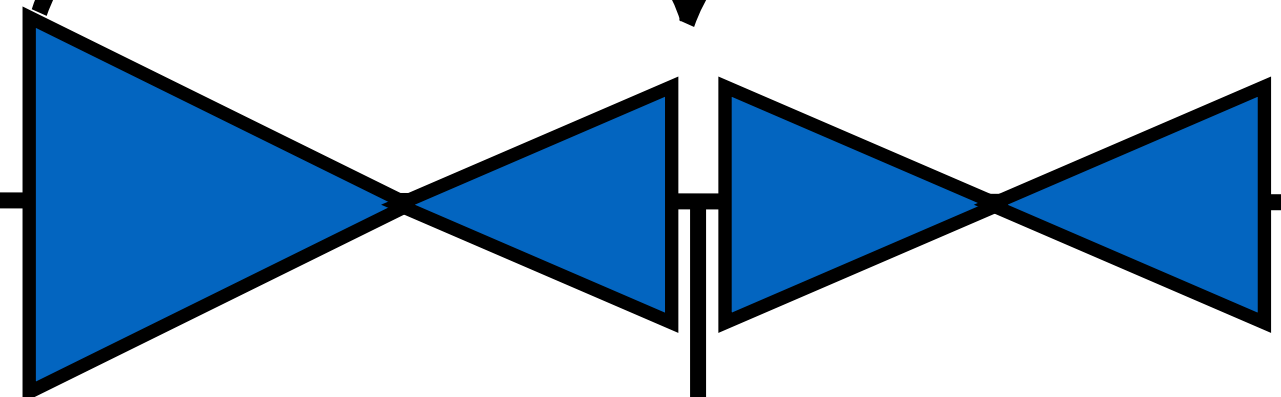
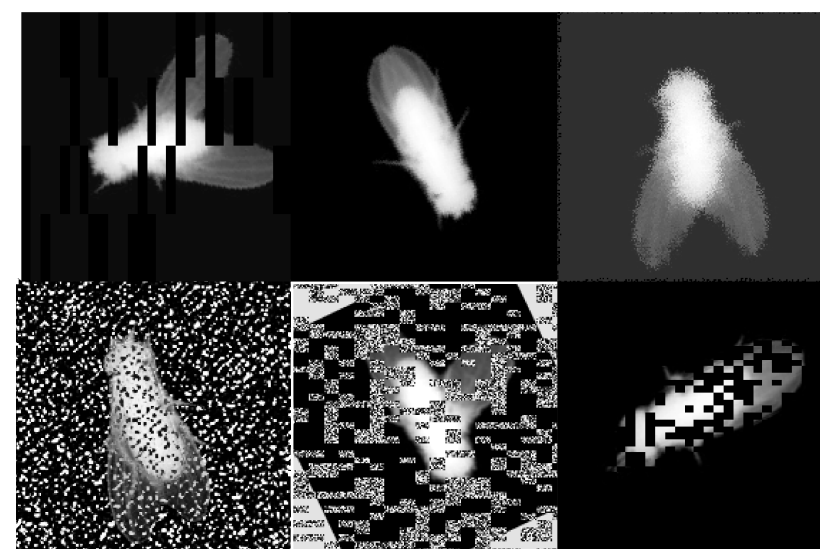


2× stacked
network

$f(\cdot)$ $g(\cdot)$

x

augment

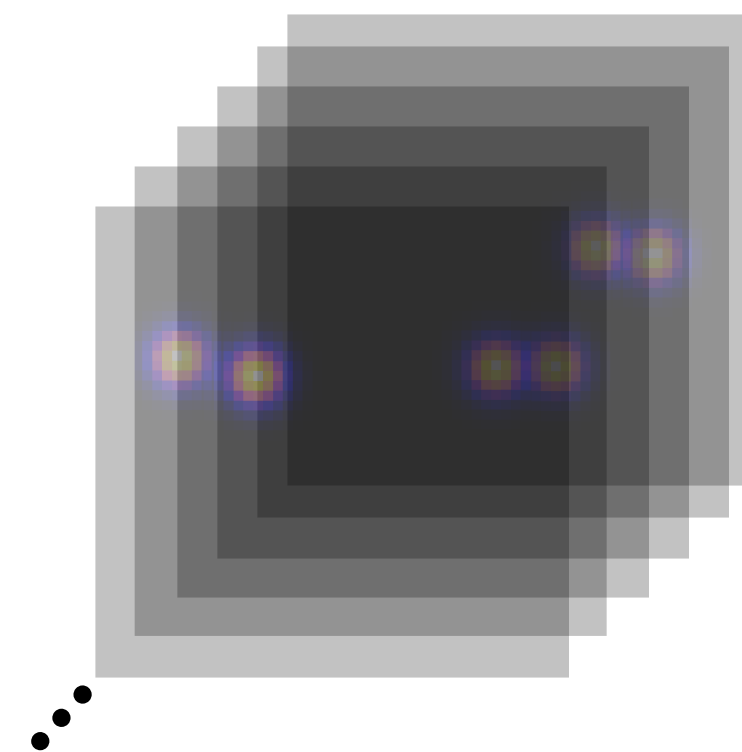


$f'(x)$

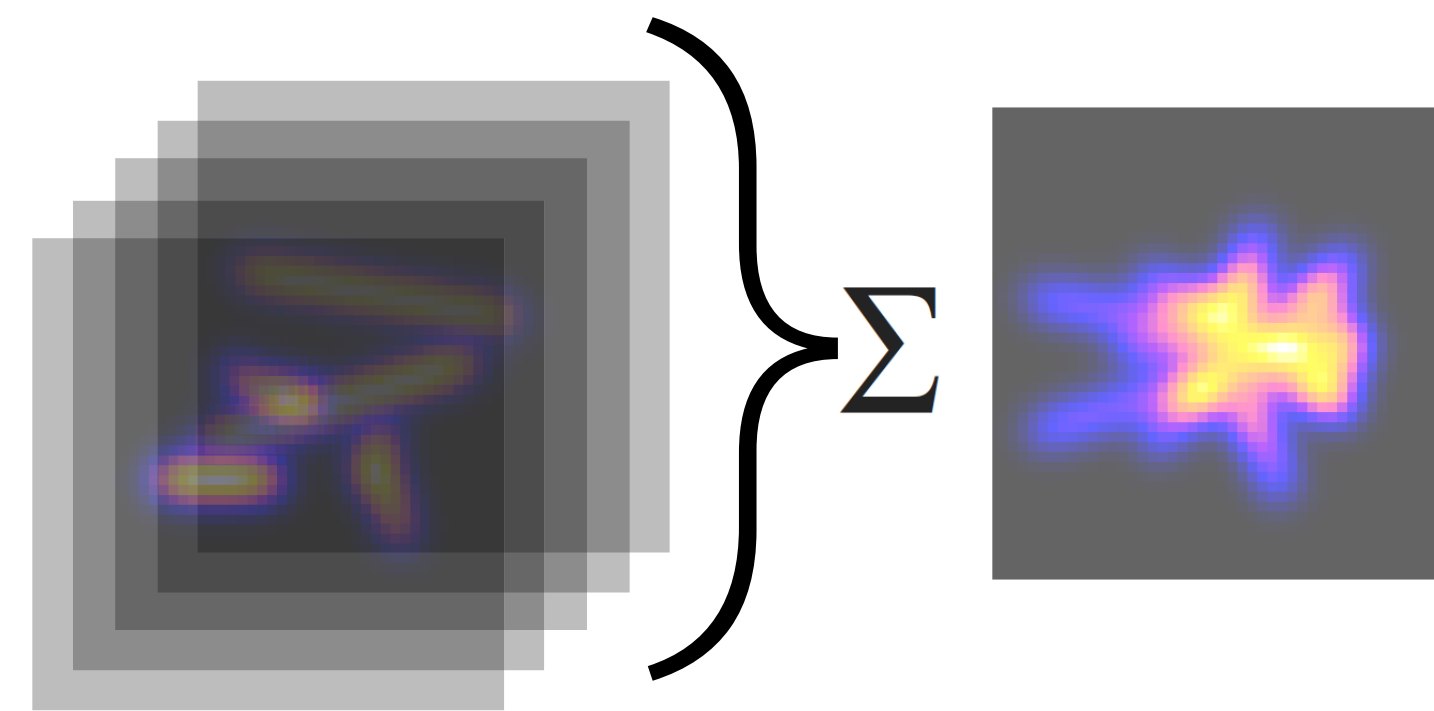
intermediate
supervision

$g(f(x))$

keypoints



hierarchical posture graph



y

$$\min \frac{1}{n} \sum_i^n (g(f(x))_i - y_i)^2 + (f'(x)_i - y_i)^2$$