



# Openpose

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# PAFs



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PAFs

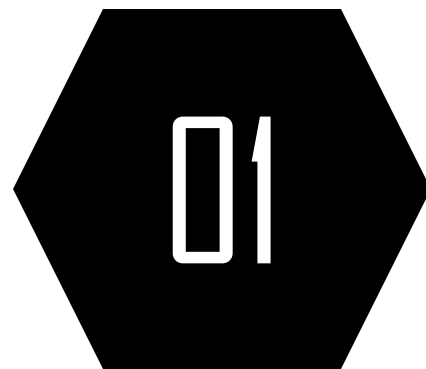
01

Part Affinity Fields (PAFs)

02

Application of PAFs

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PAFs

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**PAFs**--a set of flow fields that encodes unstructured pairwise relationships between body parts.

Each pair of body parts has a (PAF), i.e neck, nose, elbow, etc.,

Let  $C$  be the number of pairs of body parts. Then, Part Affinity Fields (PAFs) are:

the set  $L = (L_1, L_2, \dots, L_C)$  where  $L_c \in R^{w \times h \times 2}, c \in 1 \dots C$ .



If a pixel is on a limb (body part), the value in  $L_c$  at that pixel is a 2D unit vector from the start joint to the end joint.





02

## Application of PAFs

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# Application of PAFs in Multi-Person Parsing

Inputs:

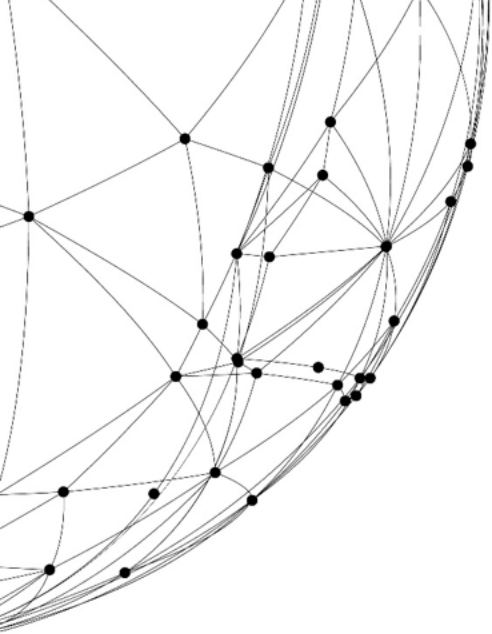
- joints\_list: a list of joint locations of size JJ where each item is a list of peaks (x, y, probability).
- Part affinity fields (PAFs):



- Number of intermediate points: the number of intermediate points between a source and destination joints to get the PAFs value.

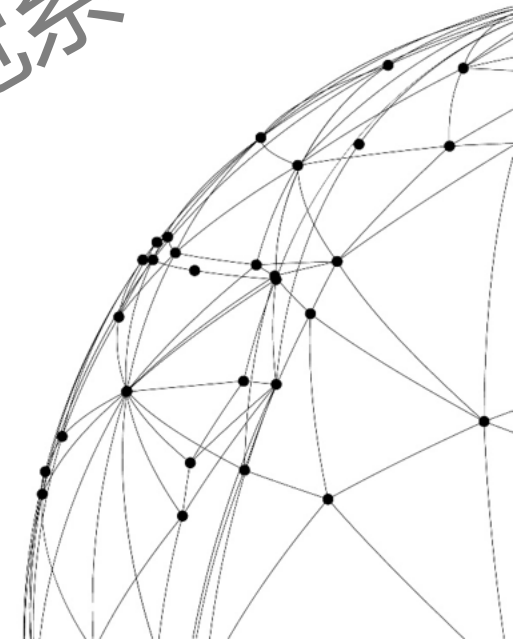
Outputs:

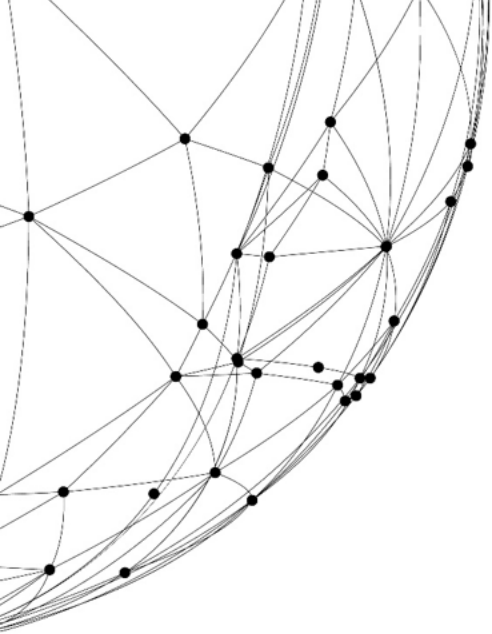
- connected\_limbs: a list of connected limbs of size CC where each item is a list of all limbs of that type found.
- Each limb information contains: id of source joint, id of target joint and a score of how good the connection is.



Thank You

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