Humans need not label more humans: Occlusion Copy & Paste for Occluded Human Instance Segmentation

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Add-ons

Are our synthesized images realistic?
(1) Photo Realism: We got around this by copy & pasting
(2) Semantic Realism: Relatively lacking here
But do we really need perfect realism?

Realism isn't favoured over variability

- copy & paste add-ons
  - Basic Copy & Paste:
    - AP\text{val} = 18.6
    - AP\text{test} = 17.8
  - Minimum Pasting Size:
    - AP\text{val} = 18.8
    - AP\text{test} = 18.5
  - Minimum Pasting Size + Blend (Fixed):
    - AP\text{val} = 18.2
    - AP\text{test} = 18.2

Increasing Efficiency & Variability

- copy & paste add-ons
  - Basic Copy & Paste:
    - Targeted:
      - AP\text{val} = 19.1 +1.2
      - AP\text{test} = 18.0 +0.5
    - + Targeted & Augm. Paste:
      - AP\text{val} = 19.2 +1.3
      - AP\text{test} = 18.4 +0.9

Occlusion Copy & Paste on the SOTA

<table>
<thead>
<tr>
<th>Model</th>
<th>External Model</th>
<th>Occlusion C&amp;P</th>
<th>OCHumanAP\text{val}</th>
<th>OCHumanAP\text{test}</th>
<th>OCHumanFLAP\text{val}</th>
<th>OCHumanFLAP\text{test}</th>
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</thead>
<tbody>
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<td>\checkmark</td>
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</tr>
</tbody>
</table>

Easily interoperable with any models, demonstrating strong potential of data-centric approaches