Poster & Paper
bit.ly/3r4CyIX

Exemplary Natural Images Explain CNN Activations Better than State-of-the-Art Feature Visualization

Judy Borowski*, Roland Zimmermann*
Judith Schepers, Robert Geirhos, Tom Wallis†, Matthias Bethge†, Wieland Brendel†

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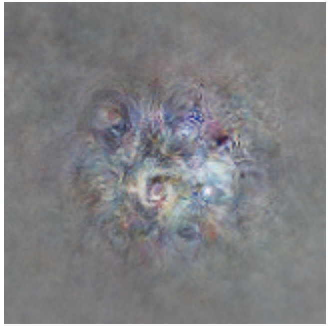
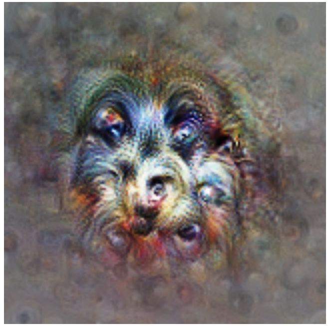
EBERHARD KARLS UNIVERSITÄT TÜBINGEN
imprs-is
Bundesministerium für Bildung und Forschung
ROBUST VISION
DFG

Feature Visualizations

Step 0



Step 4



Step 48

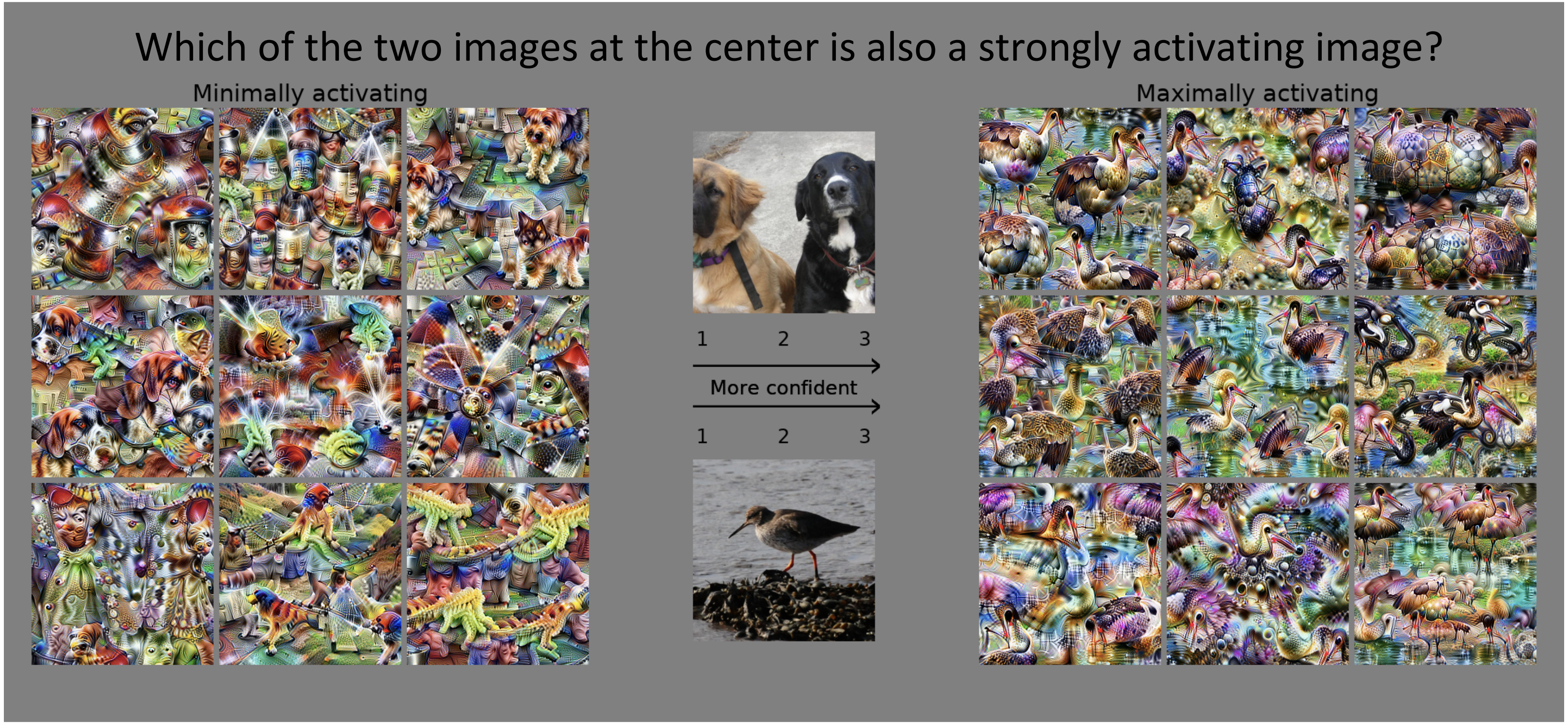
Step 2048

Stronger activation

Olah et al. (2017)

Olah et al. (2017)

How helpful are feature visualizations for humans?


Which of the two images at the center is also a strongly activating image?
Minimally activating
Maximally activating
1 2 3
More confident
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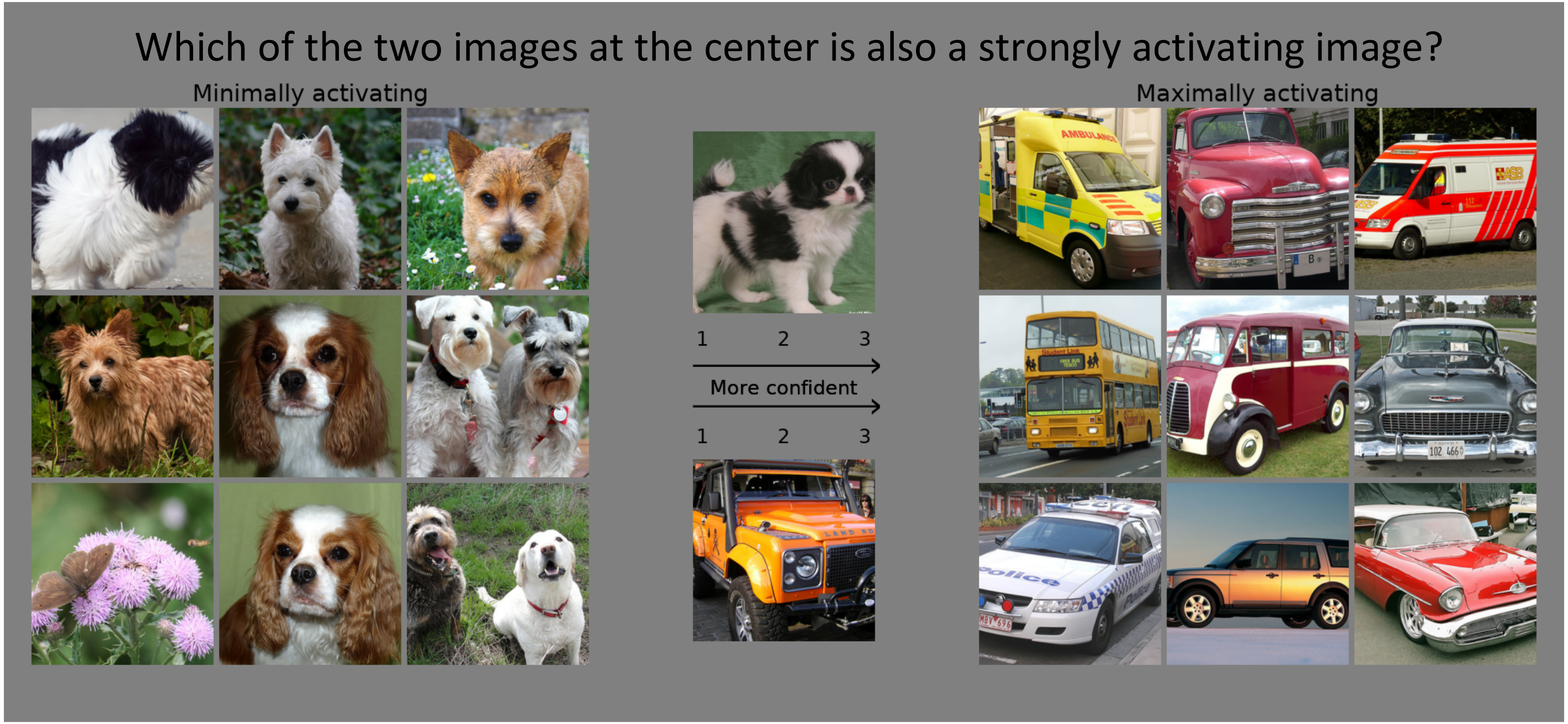
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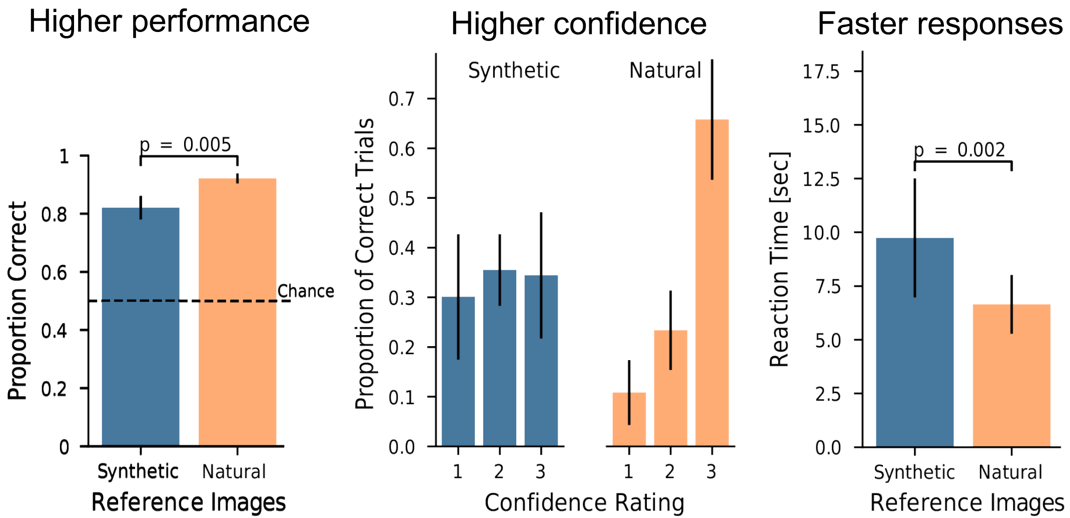
AMBULANCE

- Synthetic images provide helpful information about CNN activations
- But exemplary natural images are even more helpful



Natural images more helpful than synthetic images

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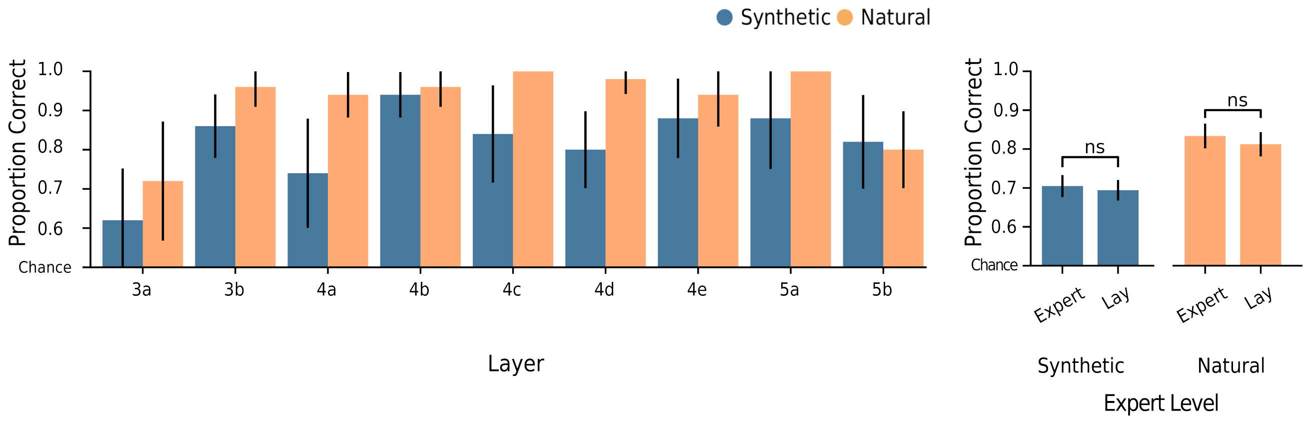
- But exemplary natural images are even more helpful
- Findings hold across various aspects



Natural images more helpful than synthetic images

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- Findings hold across various aspects

→ **Need for thorough quantitative evaluations of feature vis**
→ **Interpretability methods should improve over the baseline of natural images**

Poster Presentation:
May 4th at 1 am (PDT)

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