Related work

Network Visualization

Most previous work relies on smoothness priors to visually appealing images, which can make some models insensitive. The network visualization shows a coherently mapped auditory pathway, which is consistent with the visual pathway. The visual pathway is consistent with the visual pathway, and the auditory pathway is consistent with the auditory pathway.

Inception-V3 Metamers

**conv_4_4**

**conv_0**

**logits**

**fc_intermediate**

**conv_1a**

**conv_2**

**VGG-19**

**Early (Conv 0)**

**logits_word**

**mixed_5d**

**block1**

**conv_4**

**conv_4**

**block4**

**fc6**

**fc7**

**Resnet-101-V2**

**Original Image**

**Logits**

**normalized**

**network Flow**

**Network Depth**

**synthetic model metamers** have nearly the same activations at layers.

**Reduced**

**Aliasing**

**Network with reduced aliasing**

**network modifications can lead to internal representations closer to human perception**

**Reduced**

**ImageNet: Human behavioral experiment**

**Recognition of model metamers decreases after training**

**Discussion**

**Model metamers are a tool for comparing computational models and biological systems.**

**Humans cannot recognize model metamers matched to later layers of a DNN, revealing a divergence between model representations and human perception despite similar behavior for natural stimuli in training set.**

**Model metamers reveal the invariances that are learned by a network, and provide an error signal to track when modifying models and training tasks.**

**References and Acknowledgments**

[9] Lepikhin et al. (2019)
[12] NIPS 2017

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