

groningen / am manar susans

Proxy Attention: Comparing and Combining Augmentation with Attention

Graduation Project Proposal (Computational Intelligence and Robotics)

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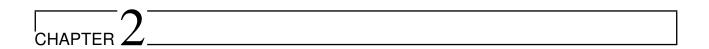
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- 1.2 Motivation
- 1.3 Challenges
- 1.4 Problem Statement
- 1.5 Research Questions
- 1.6 Thesis Outline





BACKGROUND

2.1 Interpretability

• Need for Interpretability

2.2 Gradient Based Explanations

• Taxonomy

2.3 Augmentation

• Taxonomy

2.4 Datasets

CIFAR 100 IIT pets stanford dogs imagenette ASL

STATE OF THE ART

3.1 Gradient Based Explanations

Adaptive Whitening Saliency

Bayesian Rule List

Beware Of Inmates

Cam

Conductance

Deconvnet

Deep Fool

Deep Inside Conv Nets

Deep Lift

Deep Visual Explanations

Dynamic Visual Attention

Embedding Knowledge Into Deep Attention Map

Generalizing Adversarial Exp With Gradcam

Gradcam++

Graph Based Visual Saliency

Guided Backprop

Guided Gradcam

Influence Of Image Class Acc On Saliency Map Esti

Integrated Gradients

Interpretation Is Fragile

Lime

Lrp

Noise Tunnel

Rise

Salience Map

Sam Resnet

Sanity Checks

Scorecam

Shap

Smooth Grad

Smooth Grad Square

Sp Lime

Summit

The Unreliability Of Saliency Methods

There And Back Again



Var Grad

Visualizing Impact Of Feature Attribution Baselines

3.2 Augmentation

Attentive Cutmix

Attributemix

Augmentaiton with curriculum leanring

Augmix

Co mixup

Cut and mix

GridMask

Hide and Seek

Image Mixing and deletion

Intra class part swapping

Keep augment

Latent space interpo

Puzzle mix

Randaugment

Random Erasing

Random distortion

Remix

Resizemix

Ricap

Saliencymix

Sample pairing

Smooth mix

Smote

Snap mix

Spec augment

Visual context Augmentation

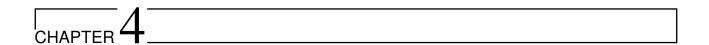
3.3 Architectures

Resnet 18, 50

VGG

Vision Transformer

3.4 Summary and Limitations



PROPOSED APPROACH

4.1 Design Decisions

Efficient Computation Updating Dataloaders Batched Implementation Callbacks Training Resumption Logging

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Imagenet Normalize Tensor Num workers

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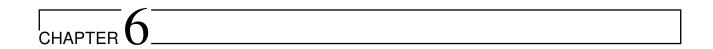
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TIMM

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