# ASSESSING THE VALIDITY OF SALIENCY MAPS FOR ABNORMALITY LOCALIZATION IN MEDICAL IMAGING

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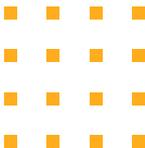
INTRODUCTION

- Saliency maps highlight salient regions of input
- Popular approach for post hoc interpretability of CNNs and localization tasks
- Quantitatively assess stability, repeatability and reproducibility of these maps in a medical imaging setting

Cascading Randomization Visualizations with InceptionV3

(a)

Cascading Randomization with InceptionV3

(b)

Cascading Randomization with InceptionV3

(c)

Intra model repeatability

(a)

Inter model repeatability
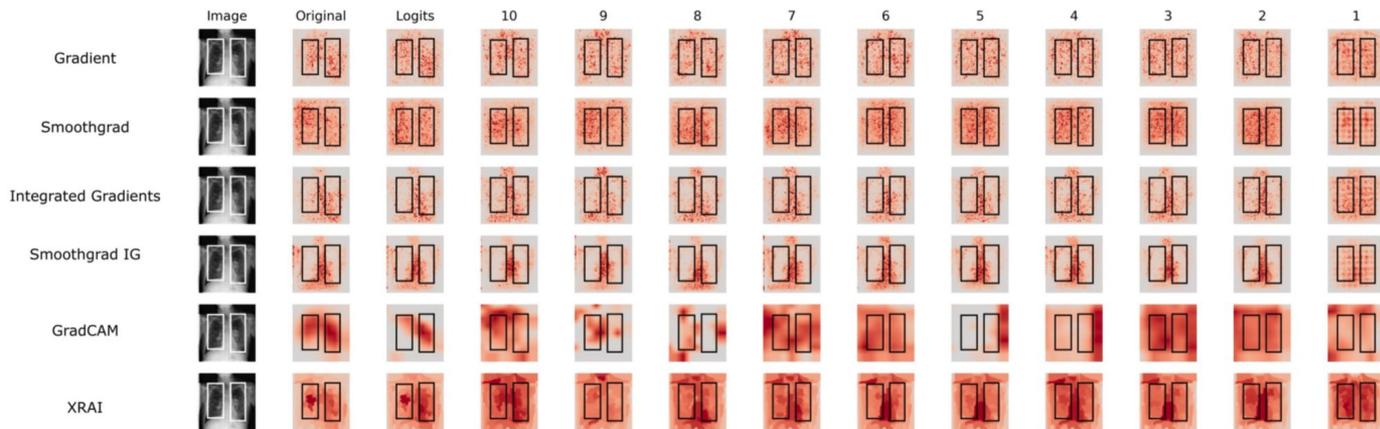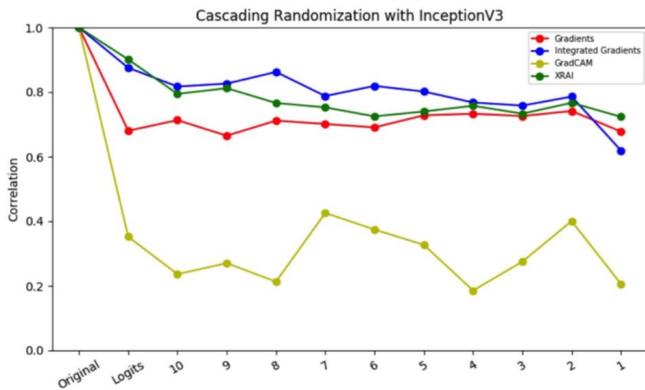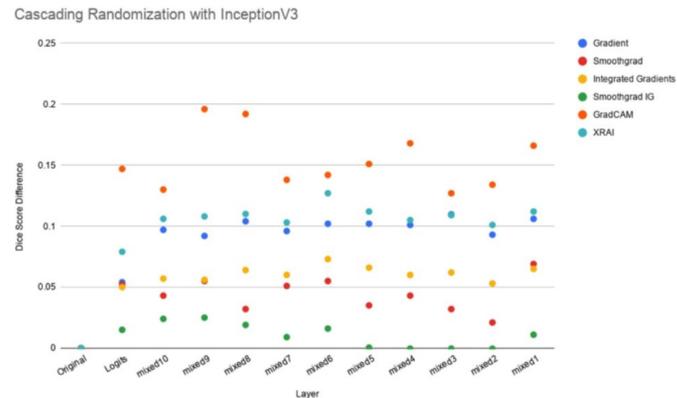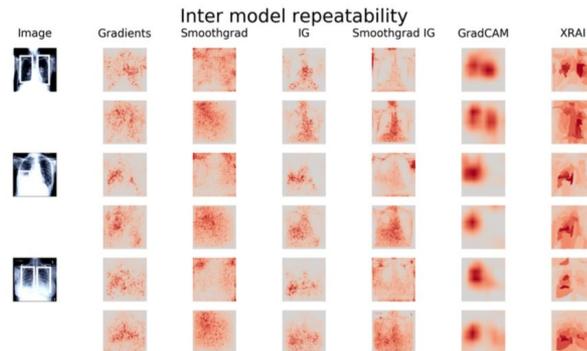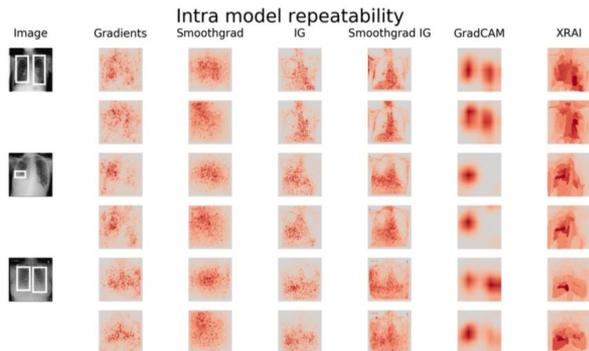
(b)

Cross model difference comparison

(c)
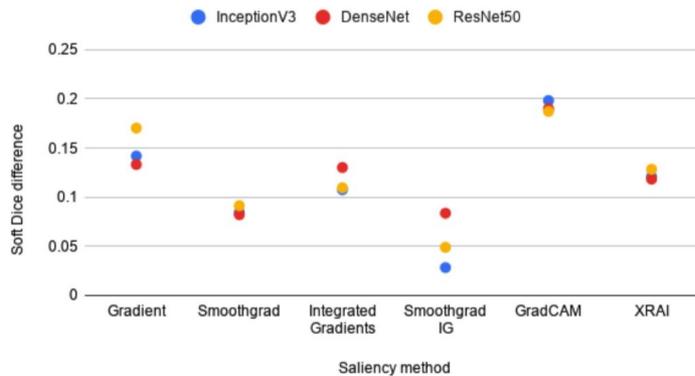
Repeatability scores
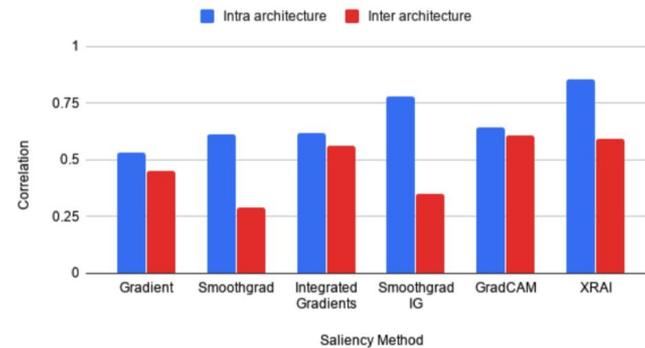
(d)

SUMMARY AND REMARKS

- Invariance to parameter randomization
- GradCAM shows significant degradation
- Not repeatable or reproducible

- Extended study with more methods and an additional dataset supports these findings