

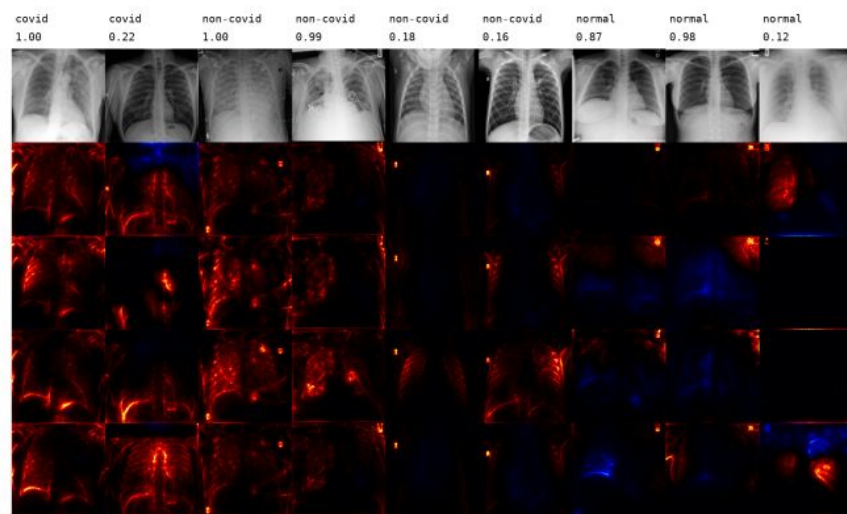
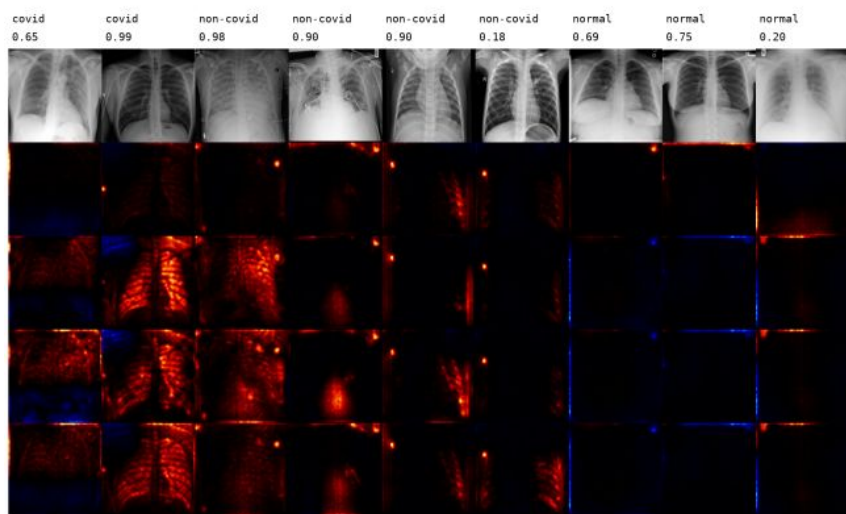
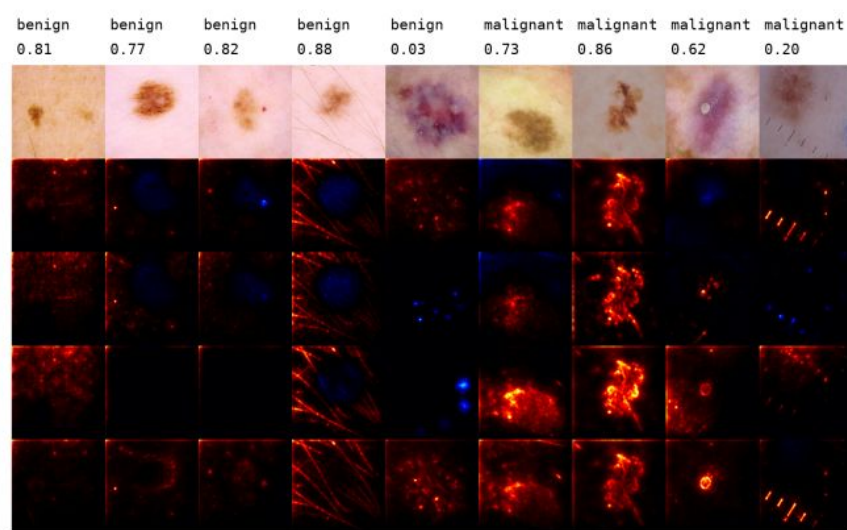
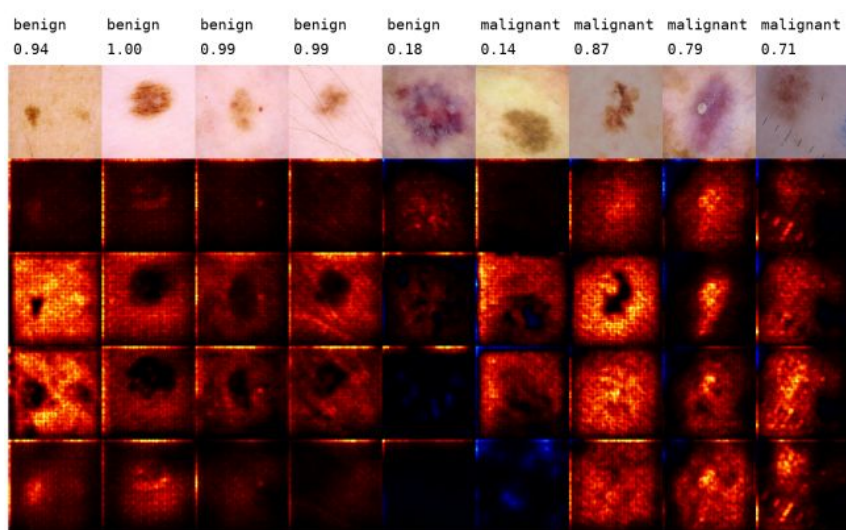
LRP & CRP

Evaluation across different model architectures and dataset

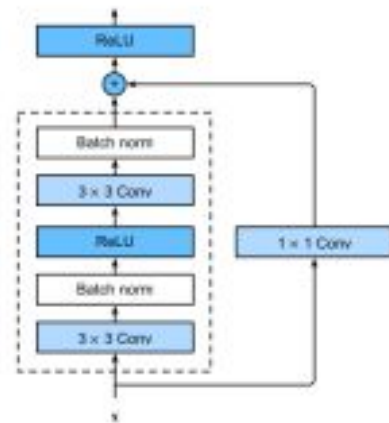
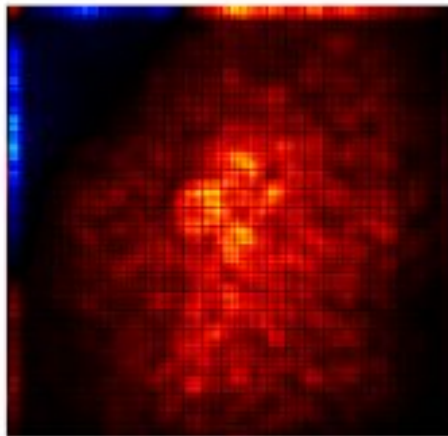
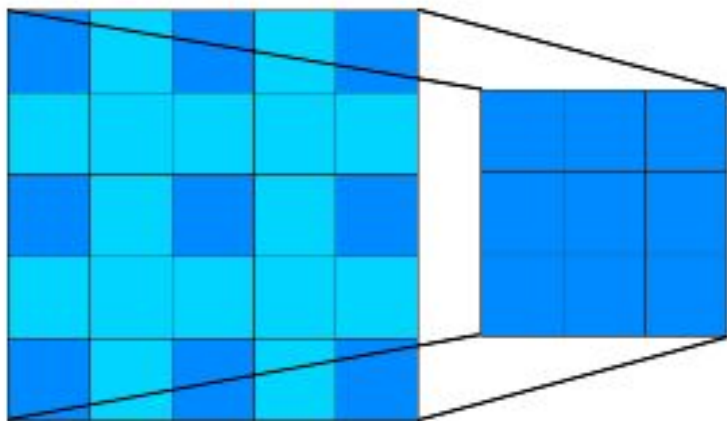
Paweł Pawlik, Michał Siennicki, Alicja Ziarko

What was done

- More data exploration
- Training of the models
- LRP and CRP on
 - 2 models: ResNet50 and VGG16
 - 2 datasets: COVID and Melanoma
- test LRP stability after applying augmentations

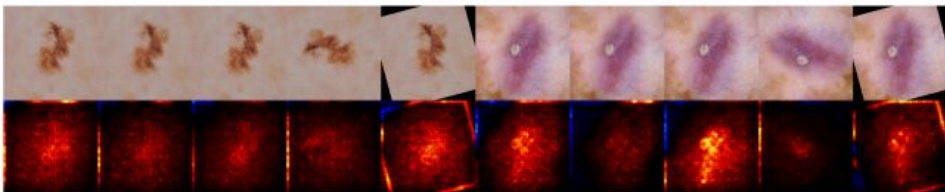


Checker pattern in ResNet explanations

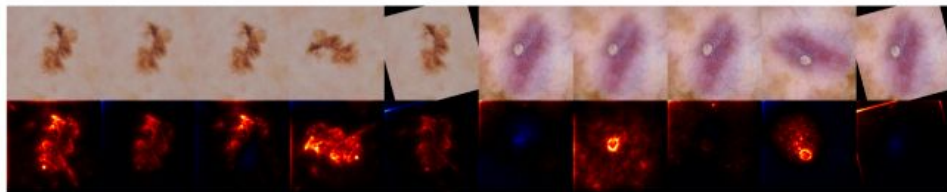


LRP on augmentations

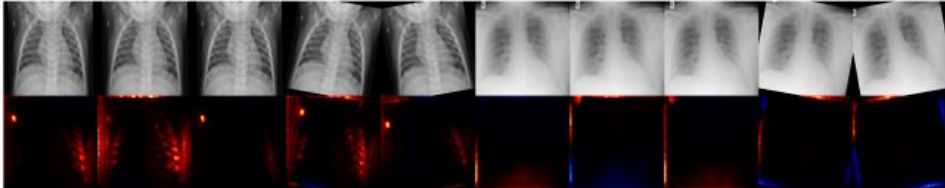
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malignant	malignant	malignant	malignant	malignant	malignant	malignant	malignant	malignant	malignant
0.87	0.86	0.83	0.87	0.85	0.79	0.63	0.84	0.74	0.79



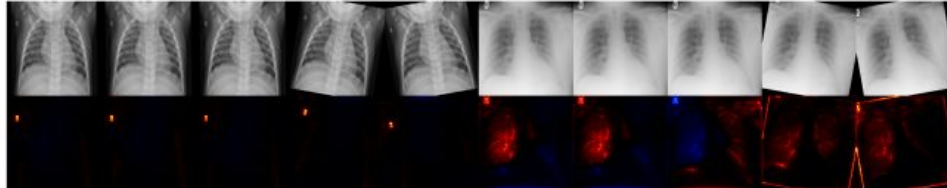
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malignant	malignant	malignant	malignant	malignant	malignant	malignant	malignant	malignant	malignant
0.86	0.82	0.71	0.85	0.86	0.62	0.93	0.32	0.72	0.17



identity	blur	sharpen	rotate-10	rotate10	identity	blur	sharpen	rotate-10	rotate10
non-covid	non-covid	non-covid	non-covid	non-covid	normal	normal	normal	normal	normal
0.00	0.00	0.02	0.01	0.07	0.20	0.24	0.31	0.06	0.19



identity	blur	sharpen	rotate-10	rotate10	identity	blur	sharpen	rotate-10	rotate10
non-covid	non-covid	non-covid	non-covid	non-covid	normal	normal	normal	normal	normal
0.00	0.00	0.00	0.02	0.29	0.12	0.12	0.26	0.00	0.00



Takeaways

- LRP and CRP give useful insight into how models work
- medical datasets are hard
- CNNs are not robust so their explanations are not either