RETHINKING IMAGE INPAINTING
What is the influence of changing the architecture?
### Rethinking Image Inpainting via a Mutual Encoder-Decoder with Feature Equalization

PROBLEM DESCRIPTION

Image inpainting is a method to restore damaged, deteriorated or corrupted images. Modern novel methods use deep learning neural networks for advaned digital image inpainting of these hole regions. The method in this paper uses a mutual encoder-decoder architecture to jointly learn features representing structures and textures combined with a feature equalization method.
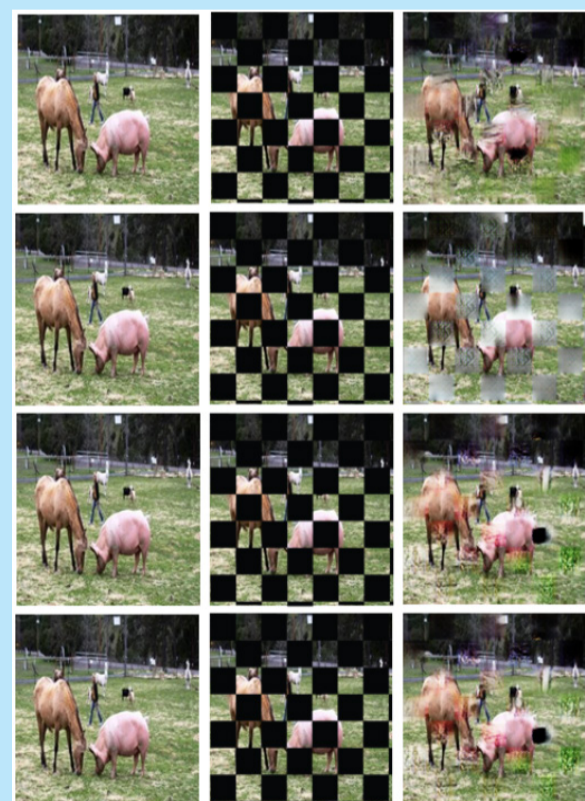
FEATURE EQUALIZATION (EXPERIMENT)

Based on the used Places2 dataset structured images are covered with a mask and inpainted. To investigate the influence of feature equalization the feature equalization is deleted out of the network architecture.
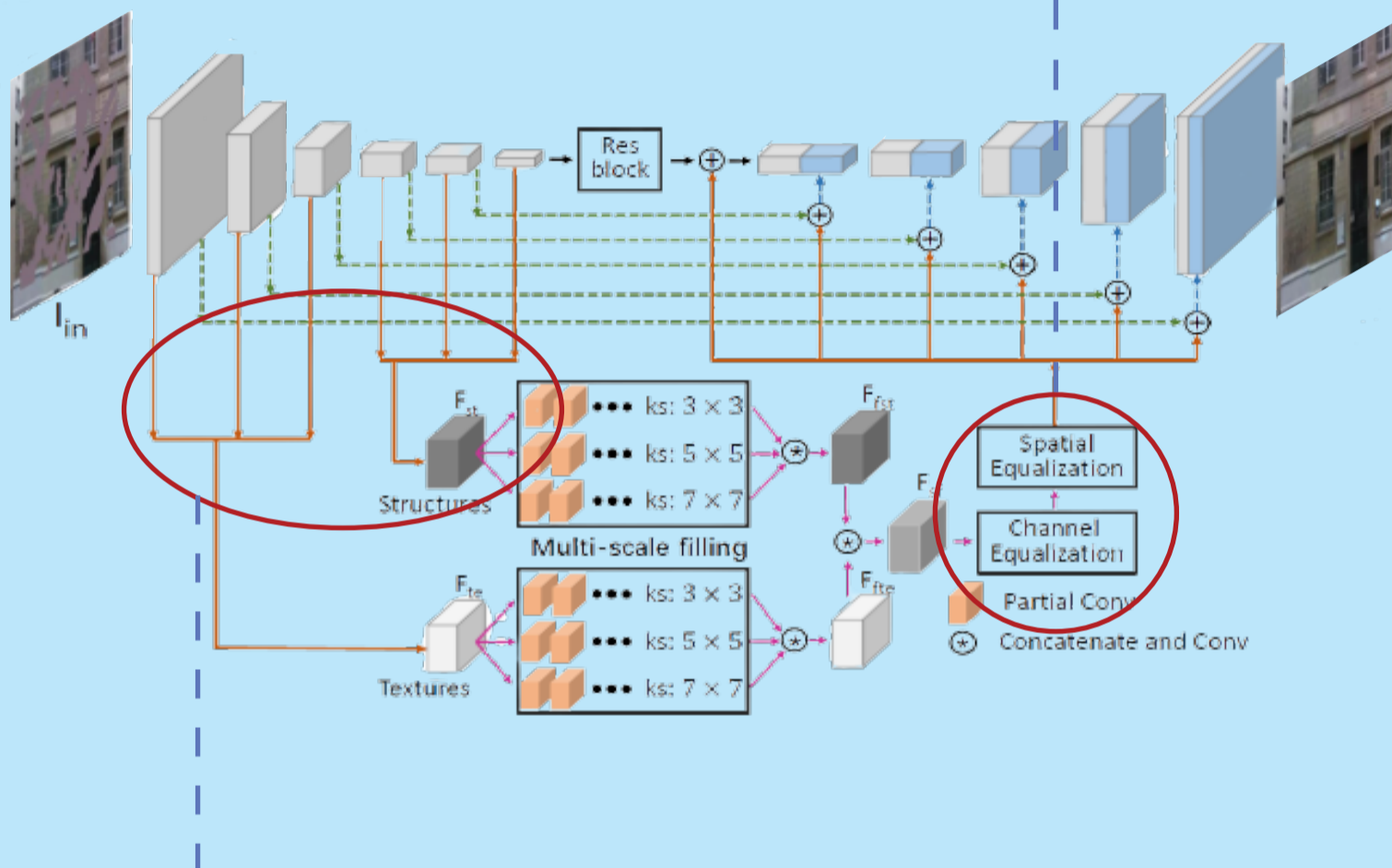
STRUCTURE-TEXTURE BRANCH (EXPERIMENT)

Based on the used Places2 dataset structured images are covered with a mask and inpainted. To investigate the influence of the structure- and texture branch, the deep and shallow layer connections are reorganised in the architecture. The reorganisation is done by switching the branches and alternating the branches.

RESULTS

1. Reference, 2. Feature equalization, 3. Switched structure and texture branch, 4. Alternating structure and texture branch

CONCLUSION

- Feature equalization has the biggest effect on the quality of the resultin images
- There is a correlation between structure and textures in images and it has benefits to learn them independently
- The overall effect of the structure and texture branch is smaller on the final image quality

	Paper	REF	FE	SB	AB
FID ↓	25.51	73.56	126.04	89.22	75.18

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