

1 **Deep learning based grading of motionartifacts in HR-pQCT**

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1 INTRODUCTION

2 LITERATURE REVIEW

2.1 Convolutional Neural Networks

2.2 Meidcal Imaging

2.3 statistical approach

2.4 Machine learning approach

3 METHODOLOGY

3.1 Methodology

3.2 Imroved Adaptive Moment Estimation (Adam)

3.3 Gaussian Noice

3.4 Batch Normalization

3.5 Data Augmentation

3.6 Dropout

3.7 ELU / ReLU

3.8 Maxout Unit

3.9 CAM / Grad-CAM

3.10 Transfer Learning

3.11 Bayesian Approaches

3.12 Network In Network (NIN)

3.13 Convolution Block Attention Model(CBAM)

3.14 Very Deep Constitutional Networks

3.15 Data Distribution

3.16 CNN Structure

4 RESULTS

4.1 F1 Score

4.2 Grad-CAM

4.3 False Positive Rate

4.4 Accuracy

4.5 Sensitivity

5 DISCUSSION/CONCLUSION