# Peer-review – TNM112

Deep learning for media technology, Lab 2

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Peer-review on report by: Johan Bäcklund (johba008)

Friday 15th December, 2023 (14:57)

## 1 Introduction

The report covers three tasks: comparing their CNN implementation with a Keras model, applying regularization and augmentation techniques to a small dataset of handwritten digits, and building a model to detect lymph nodes in medical images. The report also discusses the results and challenges of each task, and provides references for further reading. The report demonstrates the authors' understanding and application of CNN concepts and methods.

## 2 Review

For each topic, i have formulated some strengths that i can see and some feedback on what i think could be improved.

### Overall structure

think the overall structure of the pdf is clear and well-organized. It follows the typical format of sections such as abstract, introduction, background, method, results, conclusion, and references. Each section has a descriptive heading and a logical flow of information. The report also uses code blocks, tables, and equations to present the data and the implementation of the CNN model. The report could be improved by adding some figures or graphs to illustrate the results.

### Method

I think the method section in the pdf is well-written and detailed. It explains the steps and procedures used to implement and test the CNN model for each task. It also provides the code snippets, the hyperparameters, and the evaluation metrics used. However, I noticed some minor issues that could be improved, such as: The method section does not mention the software or tools used to create and run the CNN model. This information could be useful if you want to reproduce or compare the results. The method section does not explain why certain choices were made, such as the number of layers, the activation functions, or the regularization techniques for task 3. Providing some justification for these decisions could strengthen the argument and show the understanding of the CNN concepts and methods.

### Results

I think the structure of the results section is clear and concise. The results seem reasonable and within range of what is possible with the provided material from the course. However the section could be further improved by adding visual elements as the results section does not include any figures or graphs to visualize the data or the results. Adding some plots or charts could help the reader to understand the results better and would make drawing conclusion easier.

### Clarity

The abstract is clear and concise, giving a good overview of the lab report and the main results. The introduction is clear and provides some background information on CNNs and their applications. The method section is clear but the method for task 3 could be improved by including information about what optimization methods are used in the model. The results section is clear and presents the accuracy and loss values for each task. However, it could be improved by adding some visualizations, such as graphs or tables, to compare the models.

### Coverage

The explanation of CNN's is well covered in the introduction and background of the report. The different tasks are also well formulated and explained in the method section of the report but task 2 could be improved by perhaps adding code-blocks to display how certain concepts were implemented. For task 3, as before mentioned, could be improved by explaining what optimization techniques are used for the model, similar to how it was explained in task 2.

## 3 Conclusion

The report is well-structured and clear. It effectively uses code, tables, and equations to explain the concepts of lab 2. However in some section it lacks visual aids like graphs in the results section. Adding visuals would improve understanding.

While method is detailed and well explains how tasks were done and why, they lack explanations for certain choices like layer count and activation functions. More explanations for task 3 would improve the report.

Overall, the report shows good understanding but could be improved with visuals in results, more explanations for method choices, and additional details in certain sections.