Tender Assignment

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Title/Subject: Modelling fonts with convolutional neural networks
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Motivation/Experience

This project caught my interest for two reasons. First of all because it mentioned using deep neural networks. In the machine learning course of the bachelor we did some assignments using neural networks and I like to deepen my understanding of the matter since it is a very usefull skill as it is a broadly used technique. Second because it is a different or complementary approach to text recognition using standard natural language processing techniques (which was well covered during the bachelor). Although I understand this project is not about the applications of the results, I feel the different "perspective" is still exciting. As mentioned before I did a machine learning course were I learned the basics about neural networks. Also I did one machine learning project about classifying written feedback. During the bachelor I used python quitte often and I would say it is the programming language I am most comfortable working with.

Approach/Expectation

The project description gives a good overview of the general approach for the task. I will discuss my possible approach of these steps with some tools I could use. After preparing a dataset of different fonts the first step will be to convert the fonts in to images, using something like Python Imaging Library (PIL). Next will be analyzing these images, for instance with OpenCV to compare/distinguish shapes and extract features. Next I will try out the mentioned deep learning libraries and maybe others on the extracted features. For the visualization part of the project I will probably use R, since it provides loads of packages for this goal. The final step will then consist of comparing results of different methods, either used in this project or in existing research.

The task of the project is clear and I feel I have the ability to work on all the subparts succesfully and hopefully provide some meaningfull results for further projects.