Abstract

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Deep learning in pathology

By digitalisation of pathology, not just storing, viewing, and indexing may be automated. Also, the visual inspection may be partly handled by a computer.

Recent development in deep learning powered by the applications in computer vision using the convolutional neural networks has given the accuracy and precision of automated image analyse a quantum leap. Earlier approaches included handcrafted features and adapted pattern recognition algorithms. Nowadays indexical computational structures are used for many different application. Especially the U-net has shown an amazing performance and rebustness in medical image analysis.

We will discuss the trends in deep learning in medical image analysis, show examples of implementations, discuss the applications in pathology, and discuss the technical tricks necessary for making the applications work in practice.