A proposal for deep learning model development for pyuria detection

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Abstract

Supervised training of deep learning models has become a tool for resolving multidisciplinary issues for the different disciplines worldwide. The medical field is one of these areas where machine learning participates in medical image analysis to improve and support the existing medical instrumentation. Globally, different diagnostic tests for urinary tract infections (UTIs) are used in clinical practices. However, UTIs tend to be asymptomatic for people and cause complications over time because of late detection. In this project, we propose the development of an automatic urinalysis system for pyuria detection. For this, a convolutional neural network is trained and tested to identify White Blood Cells (WBCs). The automatic urinalysis system can detect and count the number of WBCs in a urine sample.

Keywords
UTI, Pyuria, Machine Learning, Deep learning