

Neonatal Convolutional Neural Network (N-CNN) for Automatic Pain Assessment

The current standard for assessing neonatal pain is discontinuous and suffers from inter-observer variations, which can lead to over- or under-treatment. Therefore, it is critical to address the shortcomings of the current standard and develop continuous and less subjective pain assessment tools. This talk presents a Neonatal Convolutional Neural Network (N-CNN) that was designed and trained from scratch to assess neonatal pain. The performance of N-CNN in recognizing pain events was comparable to that of trained nurses and hence proved the feasibility of automatic pain assessment in typical neonatal care environments.