

UNIVERSITY OF SOUTH FLORIDA

Major Research Area Paper Presentation

Temporal Multimodal Analysis of Neonatal Postoperative Pain

by

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For the Ph.D. degree in Computer Science and Engineering

Neonates do not have the ability to either articulate pain or communicate it non-verbally by pointing. The current clinical standard for assessing neonatal pain is intermittent and highly subjective. This discontinuity and subjectivity can lead to inconsistent assessment, and therefore, inadequate treatment. Machine learning-based approaches can provide a continuous pain assessment that can elevate the subjectivity and provide a reliable and objective assessment. In this presentation, we present a novel multi-channel deep learning framework for assessing neonatal procedural pain from videos using Convolutional and Recurrent Neural Networks. The experimental results prove the efficiency and superiority of the proposed temporal and multi-channel framework as compared to existing similar methods. The talk then discusses the extension of the novel framework for the multimodal assessment of postoperative pain. It will also discuss the importance of temporal multimodal pain analysis and summarize several future directions. Specifically, how pain assessment can be measured accurately and used to enhance neonatal postoperative pain management.

Monday, November 18, 2019

9:00 AM

ENB 337

THE PUBLIC IS INVITED

Examining Committee

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