Accepted Manuscript

Deep Learning for Automatic Stereotypical Motor Movement Detection using Wearable Sensors in Autism Spectrum Disorders

Nastaran Mohammadian Rad, Seyed Mostafa Kia, Calogero Zarbo, Twan van Laarhoven, Giuseppe Jurman, Paola Venuti, Elena Marchiori, Cesare Furlanello

 PII:
 S0165-1684(17)30370-5

 DOI:
 10.1016/j.sigpro.2017.10.011

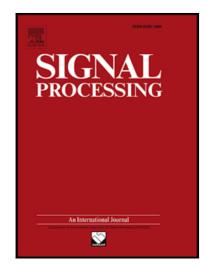
 Reference:
 SIGPRO 6632

To appear in: Signal Processing

Received date:15 March 2017Revised date:14 September 2017Accepted date:5 October 2017

Please cite this article as: Nastaran Mohammadian Rad, Seyed Mostafa Kia, Calogero Zarbo, Twan van Laarhoven, Giuseppe Jurman, Paola Venuti, Elena Marchiori, Cesare Furlanello, Deep Learning for Automatic Stereotypical Motor Movement Detection using Wearable Sensors in Autism Spectrum Disorders, *Signal Processing* (2017), doi: 10.1016/j.sigpro.2017.10.011

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



Highlights

0

- A new application of deep learning in automatic SMM detection on wearable sensors
- Feature learning via CNN outperforms handcrafted features in SMM classification
- Parameter pre-initialization is useful to transfer knowledge in longitudinal data
- Including temporal dynamics of the signal using LSTM improves the detection rate
- Using an ensemble of LSTM learners provides more accurate and stable SMM detector

Download English Version:

https://daneshyari.com/en/article/6957848

Download Persian Version:

https://daneshyari.com/article/6957848

Daneshyari.com