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Neurocomputing

Cordoba, Spain, October 10th, 2019

Dear Editor,

Please find enclosed a manuscript entitled: "Cumulative link models for deep ordinal classification" which I am submitting for exclusive consideration of publication as an article in Neurocomputing.

The paper proposes an ordinal classification methodology for deep learning combining Cumulative Link Models (CLM) with an ordinal loss function based on the Kappa index. As such, this paper should be of interest to a broad readership, including those interested in ordinal classification methods and convolutional networks.

In a preliminary conference version [1], the methodology only considered the Proportional Odds Model, which is one of the types of CLM models. In the manuscript we are submitting, we analyse the properties of multiple link functions for CLM and conduct a more thorough set of experiments to compare their performances on more datasets.

Sincerely,

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[1] V.M. Vargas-Yun, P.A. Gutiérrez y C. Hervás-Martínez. "Deep Ordinal Classification Based on the Proportional Odds Model". Proceedings of the International Work-Conference on the Interplay Between Natural and Artificial Computation (IWINAC 2019). 3-7 junio. 2019. Almería (España). Lecture Notes in Computer Science, vol. 11487. pp. 441-451.