

Histogram-based Deep Neural Network for Quantification

Pablo González, Juan José dal Coz

Artificial Intelligence Center, University of Oviedo, 33204 Gijón, Spain

Abstract

In recent times, deep neural networks (DNN) have been successfully applied to multiple machine learning problems. In the quantification field, there have been a couple of attempts that envision the ability of these networks to tackle this problem specifically. This paper proposes a DNN architecture called HistNet, that is based on histogram representations and is able to handle binary and multiclass quantification problems without the need of an underlying classifier. Our method achieves state-of-the-art results in two public datasets, one from the field of computer vision (Fashion-MNIST) and the other dealing with a natural language processing problem (IMDB).

LQ 2021: 1st International Workshop on Learning to Quantify, Gold Coast, AU, November 1 and November 5, 2021.

✉ gonzalezpablo@uniovi.es (P. González); juanjo@uniovi.es (J. J. d. Coz)



© 2021 Copyright for this paper by its authors. Use permitted under Creative Commons License Attribution 4.0 International (CC BY 4.0).

CEUR Workshop Proceedings (CEUR-WS.org)