Piecewise Approximation and Neural Networks

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Abstract: The paper deals with the recently proposed autotracking piecewise cubic approximation (APCA) based on the discrete projective transformation, and neural networks (NN). The suggested new approach facilitates the analysis of data with complex dependence and relatively small errors. We introduce a new representation of polynomials that can provide different local approximation models. We demonstrate how APCA can be applied to especially noisy data thanks to NN and local estimations. On the other hand, the new approximation method also has its impact on neural networks. We show how APCA helps to decrease the computation time of feed forward NN.

References

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