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RIVER REACHES FLOOD FLOW PREDICTION USING PRNN MODELS

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ABSTRACT

An experiment on predicting flood flows at different upstream and a down stream section of a river network applying partial recurrent neural networks (PRNN) with and without memory structure attached to the input layer is presented. Performance of PRNN having TDNN memory, Gamma memory, and Laguarre memory attached to the input layer have been investigated in the study. The models are applied to forecast flood flows at four different locations in Tar basin, USA. Results obtained indicates that though there may be difficulties in training a partially recurrent network having no memory the model performs better in forecasting multiple flows over a basin.

KEYWORDS: PRNN, Gamma Memory, River Network