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# Fuzzy Neuro Approach for Integrated Water Management System

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**Abstract :** This paper addresses the need for intelligent water management and distribution system in smart cities to ensure optimal consumption and distribution of water for drinking and sanitation purposes. Water being a limited resource in cities require an effective system for collection, storage and distribution. In this paper, applications of two mostly widely used particular types of data-driven models, namely artificial neural networks (ANN) and fuzzy logic-based models, to modelling in the water resources management field are considered. The objective of this paper is to review the principles of various types and architectures of neural network and fuzzy adaptive systems and their applications to integrated water resources management. Final goal of the review is to expose and formulate progressive direction of their applicability and further research of the AI-related and data-driven techniques application and to demonstrate applicability of the neural networks, fuzzy systems and other machine learning techniques in the practical issues of the regional water management. Apart from this the paper will deal with water storage, using ANN to find optimum reservoir level and predicting peak daily demands.

**Keywords :** artificial neural networks, fuzzy systems, peak daily demand prediction, water management and distribution
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