

## Groundwater Level Prediction Using hybrid Particle Swarm Optimization-Long-Short Term Memory Model and Performance Evaluation

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**Abstract :** This paper proposed hybrid Particle Swarm Optimization (PSO) - Long-Short Term Memory (LSTM) model for groundwater level prediction. The evaluation of the performance is realized using the parameters: root mean square error (RMSE) and mean absolute error (MAE). Ground water level forecasting will be very effective for planning water harvesting. Proper calculation of water level forecasting can overcome the problem of drought and flood to some extent. The objective of this work is to develop a ground water level forecasting model using deep learning technique integrated with optimization technique PSO by applying 29 years data of Chhattisgarh state, In-dia. It is important to find the precise forecasting in case of ground water level so that various water resource planning and water harvesting can be managed effectively.

**Keywords :** long short-term memory, particle swarm optimization, prediction, deep learning, groundwater level

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