

## **Multi-step-ahead Influenza Prediction using Machine Learning Models**

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The Epidemics of influenza are major public health concerns. This study proposes Comprehensive Learning Particle Swarm Optimization based Machine Learning (CLPSO-ML) framework for multi-step-ahead influenza prediction. A comprehensive examination and comparison of the performance and potential of three commonly used multi-step-ahead prediction modelling strategies, including iterated strategy, direct strategy and multiple-input multiple-output (MIMO) strategy, was conducted using the weekly Influenza-like illness (ILI) rate series from southern and northern China.