

# Prediction Trees Induction from Continuous Temporal Data

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**Abstract.** In this paper, we present a novel method for fast data-driven construction of regression trees from temporal datasets including continuous data streams. The proposed Mean Variance Input Output Prediction Tree (MVIOP) algorithm transforms continuous temporal data into two statistical moments according to a user-specified time resolution and builds a regression tree for estimating the prediction interval of the output (dependent) variable. Results on five benchmark data sets show that the MVIOP algorithm produces more accurate and easily interpretable prediction models than other state-of-the-art regression tree methods.