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Dear Prof. Simos,

I wish to submit an original research article entitled *A Differential Geometric Approach to Time Series Forecasting* for consideration by Applied Mathematics and Computation.

I confirm that this work is original and has not been published elsewhere, nor is it currently under consideration for publication elsewhere.

In this paper, I have proposed a forecasting method for time series. This approach is based on differential geometry. Given observations over time of a set of correlated time dependent variables, it is assumed that these variables are components of vectors tangent to a real differentiable manifold. The collection of these tangent vectors forms a path on the manifold, parametrized by time. A structure is imposed on the manifold such that this path becomes a geodesic. We can then forecast the future of this path by solving the geodesic differential equations.

The proposed method relaxes some of the limitations associated with conventional regression models, such as dependence on future values of independent variables. It proposes a novel approach and can form a framework for further study. I believe that this manuscript is appropriate for publication by Applied Mathematics and Computation because it offers a new algorithm of computational nature.

I have no conflicts of interest to disclose.

Please address all correspondence concerning this manuscript to me at babak.emami@gmail.com.

Thank you for your consideration of this manuscript.

Regards,

Babak Emami