



AI Benchmarks and Time Series

Geoffrey Fox

We discuss Earthquake Prediction from the stream of past events and the use of different time series deep learning methods -- transformers and recurrent neural nets. We note that understanding the physics of the problem suggests particular observables. This problem highlights difficulties in areas with a wide dynamic range of data values. Our technology for this problem is contributed to MLCommons, and we discuss MLCommons AI benchmarks, datasets, and best practices.



Fox received a Ph.D. in Theoretical Physics from Cambridge University, where he was Senior Wrangler. He is now a Professor in the Biocomplexity Institute & Initiative and Computer Science Department at the University of Virginia. He previously held positions at Caltech, Syracuse University, Florida State University, and Indiana University. after being a postdoc at the Institute for Advanced Study at Princeton, Lawrence Berkeley Laboratory, and Peterhouse College Cambridge. He has supervised the Ph.D. of 75 students. He has an hindex of 85 with over 41,000 citations. He received the High-Performance Parallel and Distributed Computing (HPDC) Achievement Award and the ACM - IEEE CS Ken Kennedy Award for Foundational contributions to parallel computing in 2019. He is a Fellow of APS (Physics) and ACM (Computing) and works on the interdisciplinary interface between computing and applications. He is currently active in the Industry consortium MLCommons/MLPerf.

GPCE Seminar Series

Thursday, 02/09

11:30am ET

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