PAASE

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Trained in nonparametric and robust statistics at the time when computational statistics was evolving from these two complementary fields of statistics, my work has focused on the development of statistical theory and methods supported by computing tools. Hence, iterative methods and other computer-intensive techniques are used in establishing small and large sample properties of statistical inference approaches, which serve as the foundation of computational statistics.

Most of my research problems are cultivated from the practice of statistical science in the industry and the government. Big data, for instance, which are defined in terms of volume, variety and velocity, and originating from different sources, have long been observed in the course of my practice in the industry. Thus, I was able to formulate problems arising from the nature of big data, e.g., irregularly-spaced time series, count data, overdispersion, longitudinal data (customer lifetime, customer survival, customer churn), time series with mixed frequencies, multiple time series, spatiotemporal data, etc. The methods that we developed have contributed

to analytics tools in data mining (extracting insights from huge amounts of data) and statistical machine learning.

With boundaries defined from conditions observed in real-life big data, the data-generating process is simulated to recreate the big data, facilitating the empirical evaluation of methods that are often nonparametric and structurally robust.

The computational statistics research group at U.P. has produced several graduate students who are now leaders in the data science community in industry.

My goal is to contribute in the advocacy of the proper and ethical use of statistical science and insights generated from big data analytics.


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