

Uncertainty Quantification: Data Science for Working in the Uncertain World

Date: 28 September 2021 (Tuesday)

Time: 10:00am - 11:00am

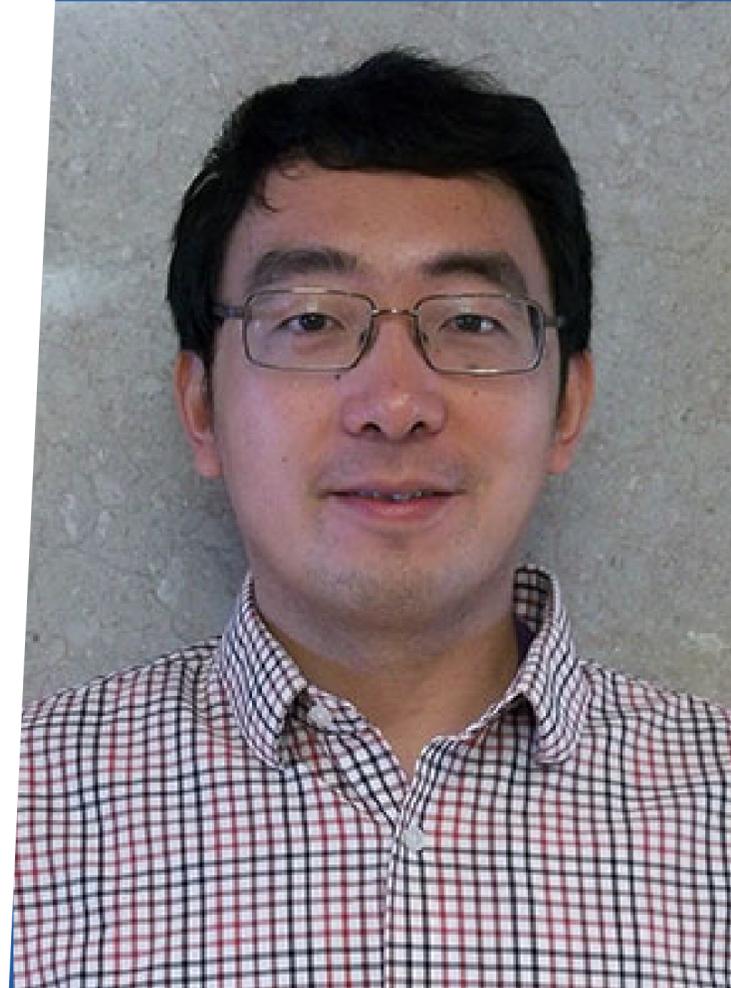
Seminar link: <https://cityu.zoom.us/j/93354406176>



ABSTRACT

Uncertainties abound in today's world: the COVID-19 pandemic, environmental change, and personalization in products and services. The engineering world is no different; uncertainty plays a large role in simulation, autonomous vehicle design and development, digital twins/thread, and digital transformations. Companies and organizations must continue to reevaluate and adapt their decision-making processes to the ever-changing environment. Now more than ever, executives, managers, engineers, and data scientists must ask themselves: How do I allow for variability or uncertainty in my decision-making?

The answer is Data Science based Uncertainty Quantification that uses statistical and machine learning tools to capture and account for variability and uncertainty, and build highly accurate predictive models in decisions across the product lifecycle and engineering and business processes. Applying these techniques requires a change in thinking for decision makers. Instead of depending on the deterministic point estimate that could drastically miss the mark, decision makers must rely upon data-driven decision-making that incorporates a range of possible outcomes and results in actionable insights. This talk will discuss how Uncertainty Quantification can help decision makers in these uncertain times. Methods on modern design of experiments and predictive models will be illustrated by using real-world examples.



Prof Peter CHIEN GUEST SPEAKER'S PROFILE

Prof Peter CHIEN is a professor in the Department of Statistics and the Department of Industrial and Systems Engineering at the University of Wisconsin-Madison. His research has been primarily focused on statistical machine learning, uncertainty quantification and design of experiments. He has served on the editorial boards of Annals of Statistics, SIAM/ASA Journal of Uncertainty Quantification and other journals. He has received a National Science Foundation Career Award and an IBM Faculty Award and is an elected Fellow of the American Statistical Association.

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All are welcome