

# *Distinguished Seminar Series on Data Science & Artificial Intelligence*

## **Exploring Interpretability and Marketplaces in Trustworthy Data Science**

**Prof. Jian Pei**

Professor  
School of Computing Science  
Simon Fraser University  
Canada



📅 16 August 2021 (Mon)

🕒 11:00 - 12:00 (HKT, UTC+8)

📍 Online via Zoom

🗣️ English

✍️ Please register at <https://polyu.hk/YGhLJ>  
or scan the QR code



**All are welcome!**

### **Abstract**

We believe data science and AI will change the world. No matter how smart and powerful an AI model we can build, the ultimate testimony of the success of data science and AI is users' trust. How can we build trustworthy data science? At the level of user-model interaction, how can we convince users that a data analytic result is trustworthy? At the level of data science eco-systems, how can we effectively and efficiently connect many participants of various roles and facilitate the connections among supplies and demands of data and models? In this talk, I will explore some ideas to the above questions in the context of an end-to-end data science pipeline. To strengthen trustworthy interactions between models and users, I will advocate exact and consistent interpretation of machine learning models. Our recent results show that exact and consistent interpretations are not just theoretically feasible, but also practical even for API-based AI services. To address the need of trustworthy data science eco-systems, I will review some latest efforts in building data and model marketplaces and preserving fairness and privacy. Through reflection, I will discuss some challenges and opportunities in building trustworthy data science for possible future work.

### **About the Speaker**

Jian Pei is a Professor in the School of Computing Science at Simon Fraser University. He is a well known leading researcher in the general areas of data science, big data, data mining, and database systems. His expertise is on developing effective and efficient data analysis techniques for novel data intensive applications, and transferring his research results to products and business practice. He is recognized as a Fellow of the Royal Society of Canada (Canada's national academy), the Canadian Academy of Engineering, the Association of Computing Machinery (ACM) and the Institute of Electrical and Electronics Engineers (IEEE). He is one of the most cited authors in data mining, database systems, and information retrieval. Since 2000, he has published one textbook, two monographs and over 300 research papers in refereed journals and conferences, which have been cited extensively by others. His research has generated remarkable impact substantially beyond academia. For example, his algorithms have been adopted by industry in production and popular open source software suites. Jian Pei also demonstrated outstanding professional leadership in many academic organizations and activities. He was the editor-in-chief of the IEEE Transactions of Knowledge and Data Engineering (TKDE) in 2013-16, the chair of the Special Interest Group on Knowledge Discovery in Data (SIGKDD) of the Association for Computing Machinery (ACM) in 2017-2021, and a general co-chair or program committee co-chair of many premier conferences. He maintains a wide spectrum of industry relations with both global and local industry partners. He is an active consultant and coach for industry. He received many prestigious awards, including the 2017 ACM SIGKDD Innovation Award, the 2015 ACM SIGKDD Service Award, the 2014 IEEE ICDM Research Contributions Award, the British Columbia Innovation Council 2005 Young Innovator Award, an NSERC 2008 Discovery Accelerator Supplements Award (100 awards cross the whole country), an IBM Faculty Award (2006), a KDD Best Application Paper Award (2008), an ICDE Influential Paper Award (2018), a PAKDD Best Paper Award (2014), a PAKDD Most Influential Paper Award (2009), and an IEEE Outstanding Paper Award (2007).