Solving high-dimensional partial differential equations by machine learning: Two cases study

Professor Jingrun Chen
Soochow University, China

Abstract
Solving high-dimensional partial differential equations (PDEs) by machine learning is of increasing interests in recent years. In this talk, I will discuss two cases, including discontinuous solutions in high dimension and the accuracy of machine-learned solutions. Concepts and tools from classical numerical methods, including total variation and discontinuous Galerkin method, are shown to be very helpful in designing accurate and reliable machine learning methods for PDEs.

Date: November 16, 2021 (Tuesday)
Time: 3:30 – 4:30pm (Hong Kong Time)
Venue: Room 210, Run Run Shaw Bldg., HKU and
ZOOM: https://hku.zoom.us/j/
Meeting ID: 913 6532 3891
Password: 310656

All are welcome