For favour of posting

DEPARTMENT OF STATISTICS AND ACTUARIAL SCIENCE
THE UNIVERSITY OF HONG KONG

Departmental Seminar

Dr. Zhuo JIN

Centre for Actuarial Studies
Department of Economics
University of Melbourne,
Australia

will give a talk
entitled

OPTIMAL INSURANCE STRATEGIES: A HYBRID DEEP LEARNING MARKOV CHAIN APPROXIMATION APPROACH

Abstract

This work studies a deep learning approach to find optimal reinsurance and dividend strategies for insurance companies. Due to the randomness of the financial ruin time to terminate the control processes, a Markov chain approximation-based iterative deep learning algorithm is developed to study this type of infinite-horizon optimal control problems. The optimal controls are approximated as deep neural networks in both cases of regular and singular types of dividend strategies. The framework of Markov chain approximation plays a key role in building the iterative equations and initialization of the algorithm. We implement this self-learning approach to approximate the optimal strategies and compare the learning results with existing analytical solutions. Satisfactory computation efficiency and accuracy are achieved as presented in numerical examples.

on

Thursday, July 18, 2019

(Refreshments will be served from 2:15 p.m. outside Room 301 Run Run Shaw Building)

2:30 p.m. – 3:30 p.m.

at

Room 301, Run Run Shaw Building

Visitors Please Note that the University has limited parking space. If you are driving please call the Department at 3917 2466 for parking arrangement.

All interested are welcome