

# Distinguished Lecture Series on Data Analytics and Artificial Intelligence



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RRS905, Sir Run Run Shaw Building, Ho Sin Hang Campus, HKBU

## Data-driven Evolutionary Optimization – Integrating Evolutionary Computation, Machine Learning and Data Sciences

### Abstract

Many real-world complex optimization problems can be solved based on data only, which is known as data-driven optimization. In this talk, we discuss the main challenges in data-driven evolutionary algorithms resulting from complexities in data as well the problems to be optimized. We then present recent advances in data-driven optimization that systematically integrate advanced machine learning techniques including active learning, semi-supervised learning and transfer learning, with evolutionary algorithms. Real-world examples are provided to illustrate different model management strategies for handling different data-driven optimization problems.

### Biography

Yaochu Jin received the B.Sc., M.Sc., and Ph.D. degrees from Zhejiang University, Hangzhou, China, in 1988, 1991, and 1996, respectively, and the Dr.-Ing. degree from Ruhr University Bochum, Germany, in 2001.

He is a Professor in Computational Intelligence, Department of Computer Science, University of Surrey, Guildford, U.K., where he heads the Nature Inspired Computing and Engineering Group. His main research interests include evolutionary optimization, machine learning, and evolutionary developmental systems. He has (co)authored over 250 peer-reviewed journal and conference papers and been granted eight patents on evolutionary optimization. He has delivered 30 invited keynote speeches at international conferences.

Dr Jin is the Editor-in-Chief of the IEEE TRANSACTIONS ON COGNITIVE AND DEVELOPMENTAL SYSTEMS and Co-Editor-in-Chief of Complex & Intelligent Systems. He is an IEEE Distinguished Lecturer (2013-2015 and 2017-2019) and past Vice President for Technical Activities of the IEEE Computational Intelligence Society (2014-2015). He is the recipient of the 2018 IEEE Transactions on Evolutionary Computation Outstanding Paper Award, the 2015 and 2017 IEEE Computational Intelligence Magazine Outstanding Paper Award. He is a Fellow of IEEE.

### Enquiry

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