



Department of
Computer Science

香港城市大學
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COMPUTER SCIENCE COLLOQUIUM

Evolutionary Multi-objective Optimization for Practicalities

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Academic Building, City University of
Hong Kong, Kowloon Tong, Hong Kong

ABSTRACT

Evolutionary multi-objective optimization (EMO) algorithms are capable of finding multiple trade-off optimal solutions in a single application. This aspect alone has made them attractive for handling multiple conflicting objectives for the past three decades. EMO algorithms are adapted for handling various other practicalities, such as robustness, reliability, hierarchy, expensive evaluation functions, etc. In this talk, we discuss two practicalities -- finding regularized trade-off solutions with certain common properties and finding intermediate transitional solutions from current to target -- proposed recently using updated EMO algorithms. Results will be shown on a number of test and engineering problems.

BIOGRAPHY

Kalyanmoy Deb is University Distinguished Professor and Koenig Endowed Chair Professor at Department of Electrical and Computer Engineering in Michigan State University, USA. He received his Bachelors degree in Mechanical Engineering from IIT Kharagpur, India in 1985, and MS and PhD degrees from the University of Alabama, Tuscaloosa in 1989 and 1991, respectively. His research interests are in evolutionary optimization and their application in multi-criterion optimization, modeling, and machine learning. He has been a visiting professor at various universities across the world including University of Skövde in Sweden, Aalto University in Finland, Nanyang Technological University in Singapore, and IITs in India. He was awarded IEEE Evolutionary Computation Pioneer Award for his sustained work in EMO, Infosys Prize, TWAS Prize in Engineering Sciences, CajAstur Mamdani Prize, Distinguished Alumni Award from IIT Kharagpur, Edgeworth-Pareto award, Bhatnagar Prize in Engineering Sciences, and Bessel Research award from Germany. He is fellow of IEEE, ASME, and three Indian science and engineering academies. He has published over 620 research papers with Google Scholar citation of over 200,000 with h-index 139. More information about his research contribution can be found from <https://www.coin-lab.org>.

All are welcome!



In case of questions, please contact Prof Zhichao Lu at zhichao.lu@cityu.edu.hk, or visit the CS Departmental Seminar Web at <https://www.cs.cityu.edu.hk/events/cs-seminars/recent-cs-colloquiums>.

