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TOPIC	:	Co-Evolved Parallel Algorithm Portfolios
SPEAKER	:	Prof. Ke Tang Southern University of Science and Technology (SUSTech)
DATE	:	Friday, 2 July 2021
TIME	:	3.30PM to 4.30PM
WEBINAR	:	Join Zoom Meeting https://nus-sg.zoom.us/j/84077230383?pwd=dVQzbUZJU0RRdEQwTmZoTVFPa0Z5dz09 Meeting ID: 840 7723 0383 Passcode: 552000

ABSTRACT

Parallel Algorithm Portfolios (PAPs), being generally applicable to nearly all kinds of computation (optimization/decision/counting/learning) problems and friendly to modern parallel computing facilities, has become a framework adopted by many industrial software systems. On the other hand, to configure a good PAP in practice has emerged as a tedious and challenging problem. For its population-based search nature, Evolutionary Computation, in particular, co-evolution, offers some off-the-shelf ideas for automated PAP configuration, which will be introduced in this talk. Specifically, we will show that, when the training instances are sufficient, high-performance PAPs can be automatically constructed with little human effort involved, by a co-evolutionary approach. In case the sample is of small size or biased, which is often encountered in practice, we propose to use competitive co-evolution of the PAPs and the instance set to tackle such challenges. The codes and datasets are available at <https://github.com/senshineL/CEPS>.

BIOGRAPHY

Ke Tang is a Professor at the Department of Computer Science and Engineering, Southern University of Science and Technology (SUSTech). Before joining SUSTech in January 2018, he was with the School of Computer Science and Technology, University of Science and Technology of China (USTC), first as an Associate Professor (2007-2011) and then as a Professor (2011-2017). His major research interests include evolutionary computation and machine learning, particularly in large-scale evolutionary computation, integration of evolutionary computation and machine learning, as well as their applications. He has published more than 180 papers, which have received over 10000 Google Scholar citations with an H-index of 48.

Professor Tang is a recipient of the IEEE Computational Intelligence Society Outstanding Early Career Award (2018), the Newton Advanced Fellowship (Royal Society, 2015) and the Natural Science Award of Ministry of Education of China (2011 and 2017). He is an Associate Editor of the IEEE Transactions on Evolutionary Computation and served as a member of Editorial Boards for a few other journals.