

On the Use of Dynamic Reference Points in HypE

SPEAKER **Mr DENG Jingda**

PhD Student
Department of Computer Science
City University of Hong Kong
Hong Kong

DATE 8 November 2017 (Wednesday)

TIME 10:00 am - 10:30 am

VENUE CS Seminar Room, Y6405
6th Floor, Yellow Zone
Yeung Kin Man Academic Building
City University of Hong Kong
83 Tat Chee Avenue
Kowloon Tong

ABSTRACT

In evolutionary multiobjective optimization, hypervolume indicator is one of the most commonly-used performance metrics. To reduce its high computational costs in many objective optimization, Monte Carlo method is used in HypE (Hypervolume Estimation algorithm for multi-objective optimization) for approximating hypervolume values. However, the diversity preservation of HypE can be poor under inappropriate settings of the reference point. In this paper, the influence of the reference point on HypE is discussed and two variants of HypE algorithm with dynamic reference points are proposed to improve the performance of HypE. Our experimental results suggest that the new algorithms outperform HypE with fixed reference points on a set of multiobjective test instances with different shapes of Pareto fronts.

This paper will be presented at SEAL2017, Southern University of Science and Technology, Shenzhen, China, November 10-13, 2017.

Supervisor: Prof ZHANG Qingfu

Research interests: Evolutionary Computation; Multiobjective Optimization

All are welcome!



In case of questions, please contact Prof Qingfu ZHANG at Tel: 3442 8632, E-mail: qingfu.zhang@cityu.edu.hk, or visit the CS Departmental Seminar Web at <http://www.cs.cityu.edu.hk/news/seminars/seminars.html>.