**英文论文：**

Faculty of Information Technology, Beijing University of Technology, Beijing 100124, China

所有作者均是工大官方邮箱

Acknowledgement

This work is supported by Beijing Natural Science Foundation (4192007), and supported by the National Natural Science Foundation of China (61202076), along with other government sponsors. The authors would like to thank the reviewers for their efforts and for providing helpful suggestions that have led to several important improvements in our work. We would also like to thank all teachers and students in our laboratory for helpful discussions.

Conflicts of Interest: We declare that we have no conflict of interest.

作者简介：

***Juan Fang,*** received the M.S. degree from Jilin University of Technology, Changchun, China in 1997, and her Ph.D. degree from the College of Computer Science, Beijing University of Technology, Beijing, China, in 2005. In 1997, she joined the College of Computer Science, Beijing University of Technology. From 2015, she is the professor of Beijing University of Technology. Her research interests include high performance computing, edge computing and big data technology. Email: fangjuan@bjut.edu.cn.

**中文论文：**

北京工业大学信息学部 北京 100124

所有作者均是工大官方邮箱

基金项目：国家自然科学基金资助项目（No.61202076）；北京市自然科学基金资助项目（No.4192007）

his work is supported by the National Natural Science Foundation of China (No.61202076), the Natural Science Foundation of Beijing (No.4192007)