Pipeline Based Genetic Algorithm for Patient Scheduling in Hospital Outpatient Department and Laboratory

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Abstract—**This research propose the pipeline based genetic algorithm for patient scheduling. The time spent in the hospital outpatient department, laboratory, and the idle time caused by the scheduling are considered. According to the subject condition, the optimal solution related to medical service time spent for the patients in different medical departments with single or multiple medical services can be found. Through the cloud computing platform, the developed algorithm can be rapidly used for different requirements from hospitals or patients.**

Keyword—**Genetic Algorithm, Scheduling, Medical Service, Pipeline, Cloud Computing**

Ming-Shen Jian was born in Kaohsiung City, Taiwan in 1978. He received the B.S. from the National Chiao Tung University, HsinChu, and Ph.D degrees in Computer Science and Engineering from the National Sun Yat-sen University, Kaohsiung, Taiwan in 2007. From 2018, he was an Associate Professor and director with the National Formosa University Cloud Computing and Intelligent System Laboratory. Currently he is also an IEEE Senior Member. Since 2009, he has been an Assistant Professor with the Computer Science and Information Engineering Department, National Formosa University. He is the author of four books, more than 50 articles, and at least 15 invention patents. His research interests include IOT development and application, Big Data, Optimal Solution, Intelligent System, and Cloud Computing. He was a Secretary of the Taiwan Association of Cloud Computing. Dr. Jian was a recipient of the IEEE sponsored international conference Paper Award in 2016, 2017, and 2018

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