그래프 탐색의 병렬화 Parallelization of Graph Search

2014.07.29

SeongJung Kang

Programming System Laboratory, School of Information & Mechatronics Electronical Engineering & Computer Science Concentration Gwangju Institute of Science & Technology (GIST) ggandolsj@gist.ac.kr

Main issue of the research

- Based on graph searching
- Faster search?
 - → Parallelization
 - Chose Breadth-First Search(BFS), not Depth-First Search(DFS)
 - → Use multithreading for faster BFS



Specific objectives

- Basic BFS
- Implementation of multithread BFS
- Analysis of input graph data
 - Ratio between number of nodes and edges
 - Depth of searching
 - Is the graph separated?
- Miscellaneous optimization

Expected effect

- Faster searching (sure!)
- More efficient garbage collection
 - Search object graph to find out which object is unreachable
- Find out the efficient preset for individual input

Thank you!