CptS 411: Page Rank Parallelization

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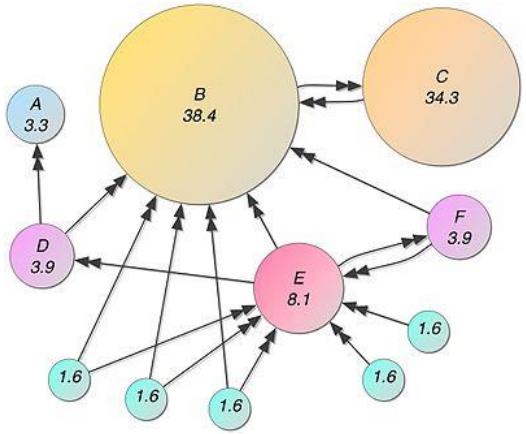

Proposed Approach

- **Shared memory parallel implementation of PageRank using OMP**
- **Distributing starting nodes across all threads to increate performance**
- **Using maps and lists together to be able to achieve O(1) reads and finds with a reasonable amount of memory usage**

Problem and challenges

PROBLEM STATEMENT:

Given a graph g, walk size K, and dampening value D, we will use the PageRank algorithm to detect and output which 5 nodes are likely going to be the most popular.

SIGNIFICANCE:

Using a parallel based PageRank algorithm we will be able to compute which top 5 nodes are likely going to be the most popular much faster than with a single processor.

CHALLENGES:

- Resolving concurrent read/write problems with shared memory parallel implementations
- Creating fast algorithm using OMP to apply PageRank

Main Outcomes

- **Perform a shared memory parallel implementation of the PageRank algorithm using OMP**
- **Obtain top 5 nodes give a list of outgoing edges**

REFERENCES: Cite any reference or tool you will be using/referring to.