

Graph algorithms library

PV264 project

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The main goal of the proposed project is, as its name suggests, to create C++ library, which should provide various graph traversal and shortest-paths algorithms. For implementation, we have chosen following algorithm categories:

Graph traversal

- Depth-first search (DFS)
- Breath-first search (BFS)
- Iterative deepening depth-first search (IDDFS)
- A*

Single source shortest-paths

- Dijkstra algorithm (using Heap and Fibonacci heap)
- Bellman-Ford algorithm
- DAG shortest-paths (Topological sort and DFS)

All-pairs shortest-paths

- Floyd-Warshall algorithm
- Johnson's algorithm