

# Graph algorithms library

PV264 project

Vojtěch Kaňa, Matej Hulín

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)
- Breadth-first search (BFS)
- Iterative deepening depth-first search (IDDFS)
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## **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