

# Report

## Time Complexity Analysis on FlowMap

### 1) Labeling Phase

- A minimum height  $K$ -feasible cut in  $N_t$  can be found in  $O(Km)$ , where  $m$  is number of edge in  $N_t$
- Therefore, to label all the nodes require  $O(Kmn)$  time, where  $n$  is number of nodes in  $N$

### 2) Mapping Phase

- Mapping all circuit of LUT requires  $O(m+n)$  time

### Conclusion

- Total time complexity is  $O(n^2)$ , which is very efficient