Meng Meng

932-370-648

My proposal: Euclidean Minimum Spanning Tree

Description: suppose there are n points in one plane. Each edge have their weight, which is the distance between each pair of points. The EMST try to found the minimal path that touch all the point in the plane. The question is can we compute this in time close to the lower bond of $\Theta(n \log n)$?

Application: Cheapest network wires

So far, I have learnt two spanning tree algorithms which are Kruskal and Prim. If we use a Fibonacci heap to implement the min-priority queue Q, the running time of Prim's algorithm improves to $\Theta(E + V \lg V)$. So when we apply those two algorithms on EMST, we will has $\Theta(n^2)$ running time, since there will be n^2 edges between n points.