

The three points in the optimal solution must lie on the convex hull of the input points.

1. $O(n \log n)$ [3].
2. $O(n)$ [2].

note. the optimal solution for this problem was originally given by [1] in 1979, which was later pointed out to be incorrect by [3] in 2017.

References

- [1] David P Dobkin and Lawrence Snyder. On a general method for maximizing and minimizing among certain geometric problems. In *20th Annual Symposium on Foundations of Computer Science (sfcs 1979)*, pages 9–17. IEEE, 1979.
- [2] Kai Jin. Maximal area triangles in a convex polygon. *arXiv preprint arXiv:1707.04071*, 2017.
- [3] Vahideh Keikha, Maarten Löffler, Ali Mohades, Jérôme Urhausen, and Ivor van der Hoog. Maximum-area triangle in a convex polygon, revisited. *arXiv preprint arXiv:1705.11035*, 2017.