Mchedlidze, Tamara
Upward planar embedding of an \(n\)-vertex oriented path on \(O(n^2)\) points. (English)


Summary: We prove that every \(n\)-vertex oriented path admits an upward planar embedding on every general set of \((n - 1)^2 + 1\) points on the plane. This result improves the previously known upper bound which is exponential in the number of switches of the given oriented path [P. Angelini et al., Lect. Notes Comput. Sci. 6502, 25-37 (2011; Zbl 1314.68210)].

MSC:
05C20 Directed graphs (digraphs), tournaments
05C60 Isomorphism problems in graph theory (reconstruction conjecture, etc.) and homomorphisms (subgraph embedding, etc.)
68R10 Graph theory (including graph drawing) in computer science

Keywords:
upward point-set embedding; oriented path; universal point set

Full Text: DOI Link

References:

[1] Angelini, Patrizio; Frati, Fabrizio; Geyer, Markus; Kaufmann, Michael; Mchedlidze, Tamara; Symvonis, Antonios, Upward geometric graph embeddings into point sets, (18th International Symposium on Graph Drawing (GD’10), Lecture Notes in Computer Science, (2011)), 25-37 · Zbl 1314.68210


[8] Kaufmann, Michael; Mchedlidze, Tamara; Symvonis, Antonios, Upward point set embeddability for convex point sets is in \(P\), (19th International Symposium on Graph Drawing (GD ’11), Lecture Notes in Computer Science, (2011)), 403-414 · Zbl 1312.05133


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