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Fachbereich Informatik

On Maximizing the Euclidian Distance Between Vertices In Drawings Of Certain Graph Classes (Working Title)

Arbeitsbereich Algorithmik

zur Erlangung des akademischen Grades
Master of Science

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Zusammenfassung

Abstract

Erklärung

Hiermit erkläre ich, dass ich diese schriftliche Abschlussarbeit selbstständig verfasst habe, keine anderen als die angegebenen Hilfsmittel und Quellen benutzt habe und alle wörtlich oder sinngemäß aus andern Werken übernommenen Aussagen als solche gekennzeichnet habe.

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2 Preliminaries

2.1 Definitions

As otherwise mentioned, a *graph* $G = (V, E)$ is a tuple consisting of two sets - the set of vertices and the set of edges. An *edge* $e = (v, w), v, w \in V$ is a tuple and describes a connectivity relation between two vertices. Unless otherwise mentioned, the graphs are *undirected*, meaning that the edge (u, v) is identical to the edge (v, u). A *face* is a maximal open region of the plane bounded by edges. The *degree* of a vertex states the amount of edges incident to the vertex.

An *embedding* of G is the collection of counter-clockwise circular orderings of edges around each vertex of V. A *drawing* Γ of a graph G is a function, where each vertex is mapped on a unique point $\Gamma(v)$ in the plane and each edge is mapped on an open Jordan curve $\Gamma(e)$ ending in its vertices. A graph is *planar* if and only if there exists a crossing-free representation in the plane. [1, Page 100]

2.2 Graph Classes

2.3 Tools

3 Initial Situation

4 k-nary Trees

5 Series-Parallel Graphs

6 Extensional Work

7 Future Work

8 Acknowledgements

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References

[1] Thomas H. Cormen et al. *Introduction to Algorithms, 3rd Edition*. MIT Press, 2009. ISBN: 978-0-262-03384-8. URL: http://mitpress.mit.edu/books/introduction-algorithms.