

SoCG'17 Accepted Papers

Karthik C. S. and Arpan Saha
Ham Sandwich Implies Borsuk-Ulam

Assaf Naor
A spectral gap precludes low-dimensional embeddings

Haitao Wang
Quickest Visibility Queries in Polygonal Domains

Esther Ezra and Micha Sharir
A Nearly Quadratic Bound for the Decision Tree Complexity of k -SUM

Anastasios Sidiropoulos and Vijay Sridhar
Algorithmic interpretations of fractal dimension

Hannah Schreiber and Michael Kerber
Barcodes of Towers and a Streaming Algorithm for Persistent Homology

Erik D. Demaine and Tomohiro Tachi
Origamizer: A Practical Algorithm for Folding Any Polyhedron

Mathieu Carrière and Steve Oudot
Local Equivalence and Induced Metrics for Reeb Graphs

Vincent Despre and Francis Lazarus
Computing the Geometric Intersection Number of Curves

Mikkel Abrahamsen, Anna Adamaszek and Tillmann Miltzow
Irrational Guards are Sometimes Needed

Mickaël Buchet, Tamal Dey, Jiayuan Wang and Yusu Wang
Declutter and Resample: Towards parameter free denoising

Chenglin Fan and Benjamin Raichel
Computing the Fréchet Gap Distance

Saladi Rahul
Approximate Range Counting Revisited

Michael Kerber, Robert Tichy and Mario Weitzer
Constrained Triangulations, Volumes of Polytopes, and Unit Equations

Édouard Bonnet and Tillmann Miltzow
An Approximation Algorithm for the Art Gallery Problem

Anne Driemel and Francesco Silvestri
Locality-sensitive hashing of curves

Siu-Wing Cheng and Man Kit Lau
Adaptive Planar Point Location

Mikkel Abrahamsen, Mark de Berg, Kevin Buchin, Mehran Mehr and Ali D. Mehrabi
Minimum Perimeter-Sum Partitions in the Plane

Pradeesha Ashok, Fedor Fomin, Sudeshna Kolay, Saket Saurabh and Meirav Zehavi
Exact Algorithms for Terrain Guarding

Abdul Basit, Zeev Dvir, Shubhangi Saraf and Charles Wolf
On the number of ordinary lines determined by sets in complex space

Herbert Edelsbrunner and Hubert Wagner
Topological Data Analysis with Bregman Divergences

Alexander Pilz, Emo Welzl and Manuel Wettstein
From Crossing-Free Graphs on Wheel Sets to Embracing Simplices and Polytopes with Few Vertices

Luis Barba, Jean Cardinal, John Iacono, Stefan Langerman, Aurélien Ooms and Noam Solomon
Subquadratic Algorithms for Algebraic Generalizations of 3SUM

Timothy M. Chan and Konstantinos Tsakalidis
Dynamic Orthogonal Range Searching on the RAM, Revisited

Jordan Iordanov and Monique Teillaud
Implementing Delaunay triangulations of the Bolza surface

Oswin Aichholzer, Martin Balko, Thomas Hackl, Jan Kynčl, Irene Parada, Manfred Scheucher, Pavel Valtr and Birgit Vogtenhuber
A superlinear lower bound on the number of 5-holes

Pankaj Agarwal, Kyle Fox, Debmalya Panigrahi, Kasturi Varadarajan and Allen Xiao
Faster Algorithms for the Geometric Transportation Problem

Jean-Daniel Boissonnat, Mael Rouxel-Labbé and Mathijs Wintraecken
Anisotropic Triangulations via Discrete Riemannian Voronoi Diagrams

Giordano Da Lozzo, Anthony D'Angelo and Fabrizio Frati
On Planar Greedy Drawings of 3-Connected Planar Graphs

Yi-Jun Chang and Hsu-Chun Yen
On Bend-minimized Orthogonal Drawings of Planar 3-graphs

Geza Toth, Janos Pach and Gabor Tardos
Disjointness graphs of segments

Martin Balko, Josef Cibulka and Pavel Valtr
Covering lattice points by subspaces and counting point-hyperplane incidences

Alexandre Rok and Bartosz Walczak
Coloring curves that cross a fixed curve

Balázs Keszegh and Dömötör Pálvölgyi
Proper Coloring of Geometric Hypergraphs

Khaled Elbassioni
Finding Small Hitting Sets in Infinite Range Spaces of Bounded VC-dimension

Mikkel Abrahamsen, Mark de Berg, Kevin Buchin, Mehran Mehr and Ali D. Mehrabi
Range-Clustering Queries

Maarten Kleinmans, Marc Van Kreveld, Tim Ophelders, Willem Sonke, Bettina Speckmann and Kevin Verbeek
Computing Representative Networks for Braided Rivers

Man Kwun Chiu and Matias Korman
High Dimensional Consistent Digital Segments

Srinivasan Parthasarathy, David Sivakoff, Minghao Tian and Yusu Wang
A quest to unravel the metric structure behind perturbed networks

Timothy M. Chan
Orthogonal Range Searching in Moderate Dimensions: k-d Trees and Range Trees Strike Back

Timothy M. Chan
Applications of Chebyshev Polynomials to Low-Dimensional Computational Geometry

Haitao Wang
Bicriteria Rectilinear Shortest Paths among Rectilinear Obstacles in the Plane

Mikkel Abrahamsen, Jacob Holm, Eva Rotenberg and Christian Wulff-Nilsen
Best Laid Plans of Lions and Men

Jacob Fox, Janos Pach and Andrew Suk
Erdős-Hajnal conjecture for graphs with bounded VC-dimension

Daniel Binham, Pedro Machado Manhaes de Castro and Antoine Vigneron
Reachability in a Planar Subdivision with Direction Constraint

Karl Bringmann, Sergio Cabello and Michael Emmerich
Maximum Volume Subset Selection for Anchored Boxes

Csaba Biró, Édouard Bonnet, Dániel Marx, Tillmann Miltzow and Paweł Rzażewski
Fine-grained complexity of coloring unit disks and balls

Eunjin Oh and Hee-Kap Ahn
Dynamic Geodesic Convex Hulls in Dynamic Simple Polygons

Michael Bekos, Michael Kaufmann and Chrysanthi Raftopoulou
On Optimal 2- and 3-Planar Graphs

Eunjin Oh and Hee-Kap Ahn
Voronoi Diagrams for a Moderate-Sized Point-Set in a Simple Polygon

Sunil Arya, Guilherme D. Da Fonseca and David Mount
Near-Optimal eps-Kernel Construction and Related Problems

Tamal Dey, Facundo Memoli and Yusu Wang
Topological Analysis of Nerves, Reeb Spaces, Mappers, and Multiscale Mappers

Lukas Barth, Benjamin Niedermann, Ignaz Rutter and Matthias Wolf
Towards a Topology-Shape-Metrics Framework for Ortho-Radial Drawings

Assimakis Kattis and Aleksandar Nikolov
Lower Bounds for Differential Privacy from Gaussian Width

Anna Lubiw, Zuzana Masárová and Uli Wagner
A Proof of the Orbit Conjecture for Flipping Edge-Labelled Triangulations

Patrizio Angelini, Michael Bekos, Giuseppe Liotta and Fabrizio Montecchiani
A Universal Slope Set for 1-bend Planar Drawings

Gui Citovsky, Tyler Mayer and Joseph Mitchell
TSP With Locational Uncertainty: The Adversarial Model

Kunal Dutta, Arijit Ghosh, Bruno Jartoux and Nabil Mustafa
Shallow packings, semialgebraic set systems, Macbeath regions and polynomial partitioning

Prosenjit Bose, Irina Kostitsyna and Stefan Langerman
Self-approaching paths in simple polygons