25th Annual Workshop on Computational Geometry

Program

Friday Oct. 23 (106 O’Brian Hall)

8:30 - 9:25 am: Registration
9:25 - 9:30 am: Opening Remarks
9:30 - 10:45 am: 4 Contributed Talks (Session chair: Donald Sheehy)
   • Esther Arkin, Jie Gao, Adam Hesterberg, Joseph Mitchell, and Jiemin Zeng: The Minimum Length Separating Cycle Problem
   • Ziyun Huang, Danny Chen and Jinhui Xu: Influence Based Voronoi Diagrams of Clusters
   • Ge Xia, Iyad Kanj and Eric Sedgwick: Computing the Flip Distance between Triangulations
   • Haitao Wang and Jingru Zhang: Computing the Rectilinear Center of Uncertain Points in the Plane

10:45 - 11:00 am: Coffee Break
11:00 – 12:00 pm: Invited Talk
   • Piotr Indyk: Beyond Locality Sensitive Hashing

12:00 - 1:30 pm: Lunch
1:30 - 2:45 pm: 4 Contributed Talks (Session chair: Xin (Roger) He)
   • Mahmoodreza Jahanseir and Donald R. Sheehy: From Cover Trees to Net-Trees
   • Nicholas Cavanna, Mahmoodreza Jahanseir and Don Sheehy: A Geometric Perspective on Sparse Filtrations
   • Iyad Kanj, Vincent Froese, Andre Nichterlein and Rolf Niedermeier: Finding Points in General Position
   • Sandor Fekete, Kan Huang, Joseph Mitchell, Ojas Parekh and Cynthia Phillips: Geometric Hitting Set for Segments of Few Orientations
2:45 - 3:45 pm: **Invited Talk**

- *Kenneth W. Regan:*
  Using the Shape of Space for Shortcuts: Speeding up regressions on millions of chess positions

3:45 - 4:00 pm: **Coffee Break**

4:00 - 5:15 pm: **4 Contributed Talks (Session chair: Jie Gao)**

- *Elizabeth Munch and Bei Wang:*
  Reeb Space Approximation with Guarantees

- *Vin de Silva, Elizabeth Munch and Anastasios Stefanou:*
  A hom-tree lower bound for the Reeb graph interleaving distance

- *Marc Khoury, Marc van Kreveld, Bruno Levy and Jonathan Shewchuk:*
  Restricted Constrained Delaunay Triangulations

- *Jason S. Ku and Erik D. Demaine:*
  Efficient Foldings of Convex Polyhedra from Convex Paper

5:15 - 5:30 pm: **Coffee Break**

5:30 - 6:30 pm: **Open Problems**

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**Saturday Oct. 24 (101 Davis Hall)**

9:10 - 10:45 am: **5 Contributed Talks (Session chair: Ge Xia)**

  Conflict-free Covering

- *Nicholas Cavanna, Kirk Gardner and Don Sheehy:*
  Generalized Coverage in Homological Sensor Networks

- *Jianxu Chen, Mark Alber and Danny Z. Chen:*
  A Geometric Matching Model Based on Earth Mover’s Distance and Its Applications in Computer Vision

- *Esther Arkin, Jie Gao, Matthew Johnson, Joseph Mitchell and Jiemin Zeng:*
  The r-Gather Problem in Euclidean Space
• **Nicole Debowski, Rene Weller and Gabriel Zachmann:**
  A Geometric Predicate for Linear Time Collision Detection of Polygonal Objects

10:45 - 11:00 am: **Coffee Break**

11:00 – 12:00 pm: **Invited Talk**

  • **Kenneth L. Clarkson:**
    Input Sparsity and Hardness for Robust Subspace Approximation

12:00 - 1:30 pm: **Lunch**

1:30 - 3:00 pm: **5 Contributed Talks (Session chair: Iyad Kanj)**

  • **Chenglin Fan and Binhai Zhu:**
    Computing the discrete Frechet distance upper bound of imprecise input is NP-hard

  • **Boris Aronov, Matias Korman, Simon Pratt, André van Renssen and Marcel Roeloffzen:**
    Time-Space Trade-offs for Triangulating a Simple Polygon

  • **Val Pinciu:**
    Art Gallery Theorems for Polyhypercubes

  • **Boris Aronov, Anirudh Reddy Donakonda and Esther Ezra:**
    On Dominating Sets for Pseudo-disks

  • **Gustavo Figueiredo, Matthew P. Johnson and Andreas Weise:**
    Square Line-of-Sight Blocking

3:00 - 3:30 pm: **Coffee Break**

3:30 - 5:00 pm: **5 Contributed Talks (Session chair: Matthew Johnson)**

  • **Yauheniya Lahoda, Hugo Alves Akitaya, Csaba D. Toth, Jonathan Castello and Anika Rounds:**
    Augmenting Planar Straight Line Graphs to 2-Edge-Connectivity

  • **Salles Viana Gomes Magalhaes, W. Randolph Franklin, Marcus Vinicius Alvim Andrade and Wenli Li:**
    An efficient algorithm for computing the exact overlay of triangulations

  • **Krzysztof Onak, Jonathan Lenchner and Liu Yang:**
    How Much Distortion Can be Incurred from One Bad Point?

  • **Wenli Li, W. Randolph Franklin and Salles V. G. Magalhães:**
    Segmented ODETLAP Compression

  • **Bahram Kouhestani, David Rappaport and Kai Salomaa:**
The Length of the Beacon Attraction Trajectory