

Competitive programming

Further topics

Prof. Rhadamés Carmona

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Extra Topics

- Computational geometry <https://www.uni-weimar.de/en/media/chairs/computer-science-department/vr/teaching/ws-201920/course-real-time-rendering/>
 - Given a set of n 2D points, obtain
 - The closest pair of points (divide and conquer)
 - The convex hull (Graham algorithm)
 - Delaunay Triangulation, Voronoi Diagram
 - Given a set of n 2D lines, obtain the intersection points (brute force is n^2 , line-sweep is $n \log n$)
 - kD-tree (2D, nD), Quad-tree (2D) , BSP-tree (2D, nD)
 - Interval tree: <https://www.geeksforgeeks.org/interval-tree/>
 - Point in polygon

Extra Topics

- Data structures
 - Segment tree, Range Minimum Query (RMQ)

Problems

- <https://www.spoj.com/problems/ADARAIN/>
- <https://www.spoj.com/problems/CPP/>
- <https://www.spoj.com/problems/ANTTT/>
- <https://www.spoj.com/problems/DOORSPEN/>
- <https://www.spoj.com/problems/VMILI/>
- <https://www.spoj.com/problems/NDS/>
- <https://www.spoj.com/problems/SEGSQRSS/>
- <https://www.spoj.com/problems/PSEGTREE/>
- <https://www.spoj.com/problems/SEGTREE/>