

Technion-Israel Institute of Technology

Computer Science Department

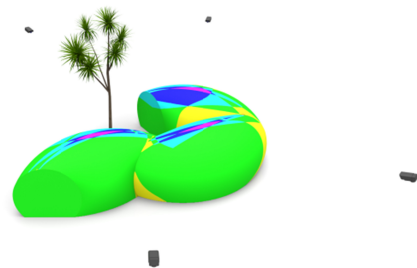
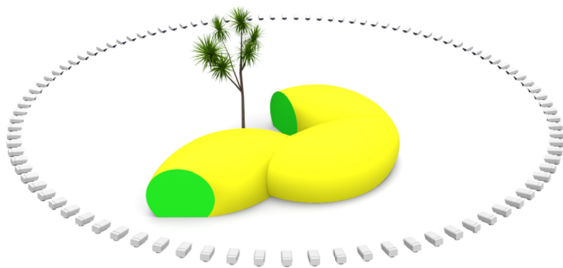
Center for Graphics and Geometric Computing

CGGC Seminar – M.Sc. Talk

Rouven Strauss

Computer Science Department, Technion-Israel Institute of Technology

Geometric Multi-Covering



We present a general, unified framework to resolve geometric covering problems. The problem is reduced to a set-cover search in parametric space. Both an optimal and an approximation algorithm are proposed and implemented, each of which is highly parallel. Computer graphics techniques are employed as part of the framework's solution, and for higher efficiency, our implementation of this framework heavily exploits GPU based computations. Our results are demonstrated based on two specific applications: firstly, illumination design in 3D environments that ensures the satisfaction of local constraints of illuminance levels using a minimal set of lamps. Secondly, visibility/accessibility analysis of 3D scenes that guarantees coverage, possibly redundant, of any point on the target shape(s) by a minimal number of observers.

This talk summarizes the M.Sc. research of the speaker under the supervision of Prof. Gershon Elber.

The lecture will be held on Sunday, 14.7.2013, at 13:00, Taub 337

Snacks and Beverages at 12:45

הזמנה זו מהווה אישור כניסה עם רכב לטכניון