



Technion-Israel Institute of Technology
Computer Science Department
Center for Graphics and Geometric Computing



CGGC Seminar – M.Sc. Talk

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Automatic Non-Isometric Shape Correspondence using a Genetic Algorithm

Shape correspondence is a fundamental task in shape analysis. Given two shapes, the goal is to compute a semantic correspondence between points on them. Shape correspondence is required when two shapes are analyzed jointly, which is common in many applications such as texture and deformation transfer, statistical shape analysis and shape classification. Automatically computing shape correspondence is a difficult problem, especially when the shapes are significantly different.

In this talk I will present a fully automatic method for shape correspondence, that is suitable for non isometric shapes and shapes of different topology. The proposed method solves the combinatorial task of putting in correspondence two sparse sets of landmarks using a genetic algorithm. Our main observation is that optimizing an objective based on an induced dense functional correspondence, combined with geometric genetic operators, is highly effective for non isometric shape matching. Our method is general, widely applicable, and outperforms state of the art methods for automatic shape correspondence both quantitatively and qualitatively.

The lecture will be held on Sunday, 30.06.2019, at 10:30, Taub 337

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