STANFORD UNIVERSITY

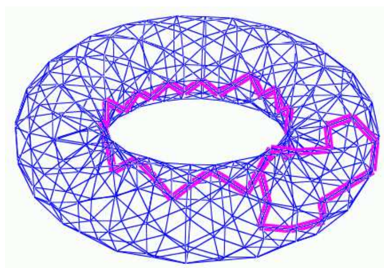
DEPARTMENT OF COMPUTER SCIENCE

CS 468: Introduction to Computational Topology

Fall Quarter 2002–03

Wednesdays, 12:30–2 PM, in Gates 392

Lecturer: Afra Zomorodian (CS)



The primary goal of the course is to present basic concepts from *topology* and *Morse theory* to enable a non-specialist to grasp and participate in current research in computational topology. As such, this course will *not* be a readings course in computational topology. I will present material from a computer scientist's point of view, focusing on computational challenges, and presenting algorithms and data-structures when appropriate. Near the end of the course, we will examine recent advances in the area.

The course combines concepts from point set topology, algebraic topology, group theory, differential manifolds, Morse theory, and normal surface theory.

I assume mathematical sophistication and familiarity with programming. However, the course is designed for a novice in the area. The grade will be based on class participation and a final project, which can be either an implementation or a survey paper.

`http://graphics.stanford.edu/courses/cs468-02-fall/`

(First meeting will be on September 25th. Course is listed as "Geometric Algorithms Seminar".)