COMP 5008 (95.508) Computational Geometry

Instructor: Dr. Prosenjit Bose
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Course Outline

Purpose: The focus of this course is the design and analysis of algorithms and data structures to solve geometric problems. These algorithms have applications in such areas as graphics, pattern recognition, and robotics. Topics will include: Convex Hulls, Point Location, Path Planning, Triangulations, Map Overlay, Geometric Data Structures.

References:

1. **TEXT BOOK:** M. de Berg, M. van Kreveld, M. Overmars, O. Schwarzkopf, *Computational Geometry: Algorithms and Applications*, (first or second edition), Springer Verlag, 1999.
2. **508 Web Page:** Information about the course will be posted on the course web page:
   `http://www.scs.carleton.ca/~jit.`
3. **Other references:** J. O'Rourke, *Computational Geometry in C*, Second Edition, Cambridge University Press, 1998. F. Preparata and M. Shamos, *Computational Geometry*, Springer Verlag, 1985.

Evaluation: There will be 3 components, with the following weights

1. assignments : 36%.
2. paper review, report, presentation: 34%.
3. term test: 30%
4. project (optional bonus): 10%

If you choose to do a project, you must come with a project outline (which I will review with you) by October 31 at the latest.

Assignments: Assignments must be handed in class. Late assignments will NOT be accepted. Copying of assignments is not allowed.

Students with Disabilities: If there is any student in this course who, because of a disability, may have a need for special accommodations, please come and discuss this with me. As well, students must contact the Paul Menton Centre for Persons with Disabilities to obtain a Letter of Accommodation for any special arrangements.

Office hours, Class Schedule, and Assignments: Information about these will be posted on the web page when it becomes available.