COSC453 2007

Computer Vision

Notes for Enrolled Students

Learning Objectives

- Appreciation of and ability to keep up with the state of the art in computer vision. What problems have been solved? What are the active research areas?
- Knowledge of established techniques in a few key areas of computer vision. How are they implemented? What are they good for? How well do they work?
- Possession of critical analysis skills necessary to pursue computer vision research.

Format

COSC453 will be taught as a series of five problem-based learning units covering 23 weeks of the academic year. There will be no formal lectures or final exam. Instead, you will be given problems to work on and will be expected to do your own research and to interact with your classmates to find solutions. Assessment will be based on class participation, and one assignment for each unit. For each unit, assessment will cover programming, research, and writing skills. Much of the course material will come from recently published journal articles in computer vision.

Syllabus

Topic	Duration	Lecturer	Value
1. Edge Detection (definite)	5 weeks	McCane	20%
2. Face Detection (tentative)	4 weeks	McCane	20%
3. Face Recognition (tentative)	4 weeks	McCane	20%
4. Tracking (tentative)	5 weeks	McCane	20%
5. TBA	5 weeks	McCane	20%

Background Knowledge

COSC453 requires computing skills equivalent to those of a BSc graduate in computer science and a basic familiarity with concepts from computer graphics, as taught in COSC342.

COSC453 also assumes a very strong background in both 100-level algebra and 100-level calculus. You will need to feel comfortable working on your own to expand your mathematical knowledge, particularly if you haven't studied mathematics above 100-level. Comfort with writing is also essential; you will need to write a final report for each unit.