CSCE 6260 Advanced Pattern Recognition and Image Processing

Course Information
Instructor: Dr. Xiaohui Yuan, NTRP F282, xiaohui.yuan@unt.edu, 940.565.4256
Office hour: Monday 11AM – 12PM (noon) or by appointment

Course Description
Research and study of specific problems and advanced topics, including the principles and pragmatics
of pattern recognition, digital image processing and analysis, and computer vision.
- Gain further experience with problems and methods in pattern recognition.
- Gain experience with non-trivial software design and implementation through programming
  projects.
- Develop skills in presenting and analyzing problems in the fields of pattern recognition and
  image processing, developing feasible strategies, implementing methods, and evaluating
  and summarizing the results.

Topics covered in this course include
- Supervised learning methods
- Unsupervised learning methods
- Feature selection

Course Outcomes
- Gain further experience with problems and methods in pattern recognition.
- Gain experience with non-trivial software design and implementation through programming
  projects.
- Develop skills in presenting and analyzing problems in the fields of pattern recognition and
  image processing, developing feasible strategies, implementing methods, and evaluating
  and summarizing the results.

Coursework and Grading
Students of this course will form groups. Each group will complete a project that is evaluated for the
final grade. The following are the list of graded items:
- Proposal (100 points)
The proposal should clearly state the problem(s) you plan to study. The proposal includes a problem
background, a statement of the problem, the state-of-the-art, and your idea to address the problem.
Related literature is also expected to be properly cited within the presentation of the proposal.

- Presentations (200 points)
Teach team will deliver two project update presentations and one final presentation. The proposal
should clearly state the problem(s) you plan to study. The proposal includes a problem background, a
statement of the problem, the state-of-the-art, and your idea to address the problem. Related literature
is also expected to be properly cited within the presentation of the proposal.

- Final package (200 points)
Please submit a ZIP file that includes a report, data used in the project, all programs/scripts, and a
description of the files in the final package. The report is expected to document the introduction,
related work, the proposed method, experimental results, and discussion. Although there is no page limit to the report, it is expected that it is no more than ten pages. The format of the report includes 1-in margin on all side, one line spacing, and 11pt fonts.

All writings will be evaluated based on intellectual merits and presentation. In each grading, up to 15% point can be deducted for presentation and language issues.

Course Policies

- Late submissions: In the cases when a deadline is enforced, late submissions are acceptable only with consent from the instructor. Extension can only be granted for extreme situations prior to the deadlines and cannot exceed seven (7) calendar days. A penalty may be applied to the late submissions.
- Attendance: Students are responsible for all material covered in class. If a student misses a class, it is that student's responsibility to obtain notes or other materials from another student.
- Any disagreement on the grades shall be discussed with the instructor within five (5) calendar days from the date the papers/homework are returned to the students.

Academic Code of Conduct

Scholastic integrity must be exhibited in your academic work, conduct, and methods. Course work for which you receive an individual grade must be your original, individual effort. Discussions of concepts are encouraged, but all assignments should be done individually. If sources other than the course textbook and presentations are used for reference - including the Internet, other books, and other people - they should be clearly cited in the submitted work. If any evidence of copying, cheating, or any other form of academic dishonesty on all or part of any of your graded course work, you (and any others involved) will be given a zero for that work and possibly an F grade for the course as well as a recommendation for further action by the Dean of Students. Consult the University of North Texas Student Handbook (www.unt.edu/student/code.htm) for guidelines and policies regarding student academic conduct.

American with Disabilities Act

The Department of Computer Science and Engineering cooperates with the Office of Disability Accommodation to make reasonable accommodations for qualified students (cf. Americans with Disabilities Act and Section 504, Rehabilitation Act) with disabilities. If you have not registered with ODA, we encourage you to do so. If you have a disability for which you require accommodation, please discuss your needs with me and submit your written Accommodation Request on or before the fourth-class day.