CSE712 Spring 2022: Deep Learning for Visual Recognition with Applications to Medical Imaging Analysis

Description

Deep learning provides exciting solutions for visual recognition problems and has become a critical method for many applications. As a unique application of computer vision to provide computer-aided analysis, medical imaging analysis will be a focus of the course. There are still several vital challenges while deploying deep learning models in this life-critical area, such as the limited training data, distributed medical data, trustworthiness, fairness, transparency, and patient privacy. The course will be beneficial to students interested in understanding the massive amount of literature in medical imaging analysis, computer vision, and deep learning.

Course Information

- Prerequisites: Require fundamental knowledge about machine learning, computer vision and deep learning (CSE4/574, CSE4/555, CSE4/573). Prior knowledge about medical imaging is not necessary.
- Instructor: Mingchen Gao (mgao8@buffalo.edu).
- Location and time: Obrian 209, Thursdays 2:00 pm – 4:40 pm
- Office Hours: Davis 347, Fridays 10:00 am – 12:00 pm
- Grading: Only satisfactory (S) and unsatisfactory (U) will be given. Each student will be expected to present 1-2 papers and lead discussions. Students taking **two credits** need to write a literature review report about a selected topic. Students taking **three credits** need to complete a course project in a group of up to three students. The project proposal will be on the 7th week, and project representation will be on the final week.

Academic integrity

Please review the CSE Department's policy on academic integrity. As this is a graduate seminar with the aim of preparing work to submit to the broader research community, any violations of academic integrity will be taken extremely seriously. Students will receive a U for the course, and the violation will be reported to the department which will result in the cessation of any and all departmental support, according to the department's academic integrity policy:

It is the policy of this department that any violation of academic integrity will result in an F for the course, that all departmental financial support including teaching assistanceship, research assistanceship or scholarships be terminated, that notification of this action be placed in the student's confidential departmental record, and that the student be permanently ineligible for future departmental financial support.

Students with disabilities

Please register and coordinate with the Office of Disability Services. Let the course staff know when accommodations need to be made. We are committed to helping you learn!