Syllabus, Spring 2021

CSCI 6521: Advanced Machine Learning I, Room: Internet.

Lecture: Monday & Wednesday: 6:30 PM to 7:45 PM
Zoom Link and Passcode to attend the class –
Zoom ID: 838 0414 7200
Passcode: 263272

Instructor: Md Tamjidul Hoque
Email: thoque@uno.edu
Phone: 504-509-4440
Office Hours: Monday 12:50 – 2:05 PM and 7:45 PM to 9:00 PM.
Wednesday 12:50 – 2:05 PM and 7:45 PM to 9:00 PM.
Friday 12:50 PM – 1:50 PM.

Online Office Hours: https://uno.zoom.us/meeting/register/tZctcuGvqj8vHNzpa0hZoG4dh5NTvmbIroQ

Prerequisites: Consent of the department or CSCI 4/5588 or MATH 3511.

Textbooks: The slides, notes, and exercises contain sufficient reading materials.
The following books are recommended for optional reading:

Course Content: This course covers advanced machine learning applications and
their development using the latest tools and platforms such as Tensorflow, Keras/TFLearn, Cloud platform, Jupyter Notebook, Scikit-learn, and Weka. The

course encompasses the probabilistic aspect of machine learning techniques to uncover
patterns to predict future data or other outcomes of interest. Topics covered will include:

• Introduction to various programming aspects, tools, and platforms of machine learning
• Regression, Classification, and Optimization
• Generative Modeling
• Autoencoders
• Representation Learning and Generative Learning Using Autoencoders and GANs
Learning Outcomes: The course is about learning to build advanced machine learning by apply suitable and effective statistical machine learning techniques using lasted tools and platforms. The target is to learn about the systematic application of probabilistic reasoning to inferential problems. After successful completion of the course, a student is expected to be able to easily apply the latest tools and methods in many important areas including but not limited to text-processing, computer vision, robotics, and bioinformatics. A student will also learn to utilize lasted hardware architecture such as vector-registers, parallel CPUs, and GPU/TPU.

Online Materials: Essential course material, assignments, announcements, etc. will be posted to this course page on Moodle, http://www.uno.edu/moodle. Make sure to check your @uno.edu email frequently.

Attendance: Your attendance at class is needed and essential for you to meet course requirements. 5% mark is allocated for your attendances.

Grading: | Programming Assignments (3): marks 39%  
| [Tentative] | Homework Assignments (1): marks 11%  
| Class Tests (3): | marks 20% [best 2 counts]  
| Attendance: | marks 5% { %5: [90-100%], 4%: [85-90), 3%: [80-85], 2%: [75-80], 1%: [70-75], 0%: <70 }  
| Final Examination: | marks 25% (Must attend to pass)  
Grading scale: A: 90+, B: 80-89%, C: 70-79%, D: 60-69%, F: <60%.

Bonus: A student who will be able to produce any publishable work (approved based on superior results, recognized by the instructor during the course period) related to any given assignment(s) or the topics covered in the class, will be given 10% bonus marks.

Exams: Test 1, 2 and 3: tentatively on Feb 24th, March 24th, and April 28th, respectively.  
Last Class: May 11th (Tuesday).  
Final Exam: Date/Time - Wednesday, May/12/2021, 8:00 PM to 10:00 PM, Location: Internet.

Due Dates: You are responsible for handing in your assignment on time. Late submissions will be assessed at the following rates: 80% for 1-48 hours late, 60% for 49-96 hours late, 40% for 97-144 hours late, 20% for 145-168 hours late. Assignments that are over a week late will receive no credit. For online submission, use Moodle. However, if Moodle is not working for some technical reason, email me (thoque@uno.edu) the assignment. If you are unable to act according to the deadlines due to exceptional circumstances, you must inform long before the deadline or, you must provide evidence.

Conducts:  
(1) All submitted works must be your own. Any academic dishonesty, including cheating, plagiarism, and conspiracy will result in 0 marks and will be reported to the appropriate authority in the University (http://www.studentaffairs.uno.edu/pdfs/StudentCodeofConduct.pdf).  
(2) Please be on time in the class. Late coming in the class is discouraged.  
(3) Please avoid disruptive and noisy activities in the class and be respectful to others.
Check Registrar’s website for items not listed below.

**Spring Semester Important Dates**
- Last day to adjust schedule w/out fee .................. 01/28
- Spring Semester Classes Begin .......................... 01/29
- Last day to adjust schedule w/fee, or withdraw w/ 100% refund ........................................ 02/08
- Last day to apply for Spring Commencement .......... 03/01
- Mid-Term grades due ...................................... 03/24
- Final day to drop a course or resign ..................... 04/05
- Last Day of Classes ........................................ 05/11
- Final examinations ........................................ 05/12-05/18
- Commencement ............................................. 05/19-05/20

**Winter Intersession 2021 Important Dates**
- Last day to apply for Spring Commencement .......... 03/01
- Last day to adjust schedule w/out fee .................. 03/02
- Semester Classes Begin .................................. 03/23
- Last day to adjust schedule w/fee, or withdraw w/ 100% refund ........................................ 03/26
- Mid-Term grades due ...................................... 03/28
- Final day to drop a course or resign ..................... 04/13
- Last Day of Classes ........................................ 05/11
- Final examinations ........................................ 05/12-05/18
- Commencement ............................................. 05/19-05/20

**Session “B” Important Dates**
- Last day to apply for Spring Commencement .......... 03/01
- Last day to adjust schedule w/out fee .................. 03/22
- Semester Classes Begin .................................. 03/23
- Last day to adjust schedule w/fee, or withdraw w/ 100% refund ........................................ 03/26
- Mid-Term grades due ...................................... 03/28
- Final day to drop a course or resign ..................... 04/13
- Last Day of Classes ........................................ 05/11
- Final examinations ........................................ 05/12-05/18
- Commencement ............................................. 05/19-05/20

**Spring Semester Holidays**
- Mardi Gras Holiday ...................................... 02/15-02/16
- Good Friday Holiday ...................................... 04/02-04/03

**Use of Mask or Face Covering**
The UNO Student Code of Conduct states, “Students will prioritize health and safety of the campus community. As a result of the COVID-19 pandemic (or other declared communicable disease outbreak or pandemics), when in shared, public spaces or where a minimum distance of six (6) feet (or a distance as recommended by latest safety guidelines) cannot be safely maintained, students are required to wear personal protective equipment in the form of a mask or face covering that covers their nose and mouth.”

**Withdrawal Policy – Undergraduate only**
Students are responsible for initiating action to resign from the University (withdraw from all courses) or from a course on or before dates indicated in the current Important Dates calendar. Students who fail to resign by the published final date for such action will be retained on the class rolls even though they may be absent for the remainder of the semester and be graded as if they were in attendance. Failure to attend classes does not constitute a resignation. Check the dates and charges associated on the Registrar’s website.

**Incomplete Policy – Undergraduate only**
A grade of I is assigned when, due to extenuating circumstances beyond their control, students engaged in passing course work are unable to complete class assignments within the time frame of the course’s session. Before agreeing to the use of an incomplete grade in any course, an Incomplete Grade Agreement Form must be completed. Details regarding deadlines for completing the I grade, when the incomplete converts to a grade of F, and a link to the form are on the Academic Affairs website.

**Repeat Policy**
When a student is permitted to repeat a course for credit, the last grade earned shall be the one which determines course acceptability for degree credit. A student who has earned a C or better in a course may not repeat that course unless, (1) the catalog description indicates that the course may be repeated for credit, or (2) the student’s Dean gives prior approval for documented extenuating circumstances.

**Graduate Policies**
Graduate policies often vary from undergraduate policies. To view the applicable policies for graduate students, see the Graduate Student Handbook.

**Academic Dishonesty Policy**
Policies for academic conduct are here.

**Safety Awareness Facts and Education**
Title IX makes it clear that violence and harassment based on sex and gender is a Civil Rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, etc. If you or someone you know has been harassed or assaulted, you can find the appropriate resources here.

**UNO Counseling Services and UNO Cares**
UNO offers care and support for students in any type of distress. Counseling Services assist students in addressing mental health concerns through assessment, short-term counseling, and career testing and counseling. First-year students often have unique concerns, and UNO Cares is designed to address those students’ needs. Contact UNO Cares.

**Emergency Procedures**
Sign up for emergency notifications via text and/or email at E2Campus Notification. All emergency and safety procedures are explained at the Emergency Health and Safety Office.

**Diversity at UNO**
As the most diverse public university in the state, UNO maintains a Diversity Affairs division to support the university’s efforts towards creating an environment of healthy respect, tolerance, and appreciation for all people, and the expression of intellectual point of view and personal lifestyle. The Office of Diversity Affairs promotes these values through a wide range of programming and activities.

**Learning and Support Services**
Help is within reach in the form of learning support services, including tutoring in writing and math and other supplemental instruction. Visit the Learning Resource Center in LIB 126.
Affirmative Action and Equal Opportunity
UNO is an equal opportunity employer. The Human Resource Management department has more information on UNO’s compliance with federal and state regulations regarding EEOC in its Policies and Resources website.

COVID-19 Health-Related Absences
Students should evaluate their health status regularly, refrain from coming to campus if they are ill, and seek appropriate medical attention for treatment of illness. Students should notify (email) their instructors about their absence as soon as possible, so that accommodations can be made. In the event of COVID-19 illness, students should also complete the Campus Reporting Form. Please note that medical excuse may be required at the discretion of the department chair and/or college dean.