

COMP 5116: Machine Learning

TITLE: Machine Learning

LECTURES: Monday 2:35pm-5:25pm, Location: Online

INSTRUCTOR: Yuhong Guo, YuhongGuo(at)cunet.carleton.ca

OFFICE HOURS: Monday 5:25pm-6:25pm, Location: Online

COURSE SCHEDULE: http://people.scs.carleton.ca/~yuhongguo/teach/2021_fall/COMP5116.html

PREREQUISITES

Familiarity with probability and statistics; familiarity with linear algebra and calculus; programming skills at a level sufficient to write a reasonably non-trivial computer program.

TEXTBOOKS

- [Machine Learning: A Probabilistic Perspective](#), by Kevin Murphy. MIT Press, 2012.
- [The Elements of Statistical Learning](#), by Trevor Hastie, Robert Tibshirani, Jerome Friedman. Second edition, Springer-Verlag New York, 2009.
- [Pattern Recognition and Machine Learning](#), by Christopher M. Bishop. Springer-Verlag New York, 2006.
- Other reading materials.

DESCRIPTION

Machine learning is the science that gives computers the ability to learn without being explicitly programmed. Machine learning is pervasive today in the world. This course provides a broad introduction to the fundamental concepts, techniques and algorithms in machine learning, including supervised learning methods, unsupervised learning methods, and semi-supervised learning methods.

GRADING

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|------------------------|-------------------|--------------------|
| • Assignments: 28% | Exam: 14% | Participation: 4% |
| • Project Proposal: 5% | Presentation: 14% | Final Project: 35% |

POLICIES and RULES

- This course will be delivered in a blended online format. Course content will be delivered primarily through pre-recorded videos. Synchronous attendance and participation in the exam, presentation and discussion sections are required.
- Late submission of assignments and project: 10% deduction for each day beyond the due time.
- All the Carleton's standard rules on Equity, Students with special needs, Plagiarism, Academic Integrity etc. hold for this course. All these matters will be handled by appropriate authorities. You should look into the relevant university publications. If you have questions regarding any such issues, you can ask the School of Computer Sciences Administrative Staff.

Information on Academic Accommodations

Requests for Academic Accommodation

You may need special arrangements to meet your academic obligations during the term. For an accommodation request, the processes are as follows:

Pregnancy obligation

Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit the Equity Services website: carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf

Religious obligation

Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit <https://carleton.ca/equity/focus/discrimination-harassment/religious-spiritual-observances/>.

Academic Accommodations for Students with Disabilities

If you have a documented disability requiring academic accommodations in this course, please contact the Paul Menton Centre for Students with Disabilities (PMC) at 613-520-6608 or pmc@carleton.ca for a formal evaluation or contact your PMC coordinator to send your instructor your Letter of Accommodation at the beginning of the term. You must also contact the PMC no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable). After requesting accommodation from PMC, meet with your instructor as soon as possible to ensure accommodation arrangements are made. carleton.ca/pmc

Survivors of Sexual Violence

As a community, Carleton University is committed to maintaining a positive learning, working and living environment where sexual violence will not be tolerated, and its survivors are supported through academic accommodations as per Carleton's Sexual Violence Policy. For more information about the services available at the university and to obtain information about sexual violence and/or support, visit: carleton.ca/sexual-violence-support

Accommodation for Student Activities

Carleton University recognizes the substantial benefits, both to the individual student and for the university, that result from a student participating in activities beyond the classroom experience. Reasonable accommodation must be provided to students who compete or perform at the national or international level. Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. <https://carleton.ca/senate/wp-content/uploads/Accommodation-for-Student-Activities-1.pdf>

For more information on academic accommodation, please contact the departmental administrator or visit: students.carleton.ca/course-outline

ODS Academic Integrity Policy webpage: <https://science.carleton.ca/academic-integrity/>