CS1951A - Data Science

Course Missive

Spring 2020

Introduction

CS1951A, Introduction to Data Science, is a interdisciplinary survey course that covers the foundations of data science. It takes a holistic look at the foundations of what people today use to store, analyze, and summarize massive amounts of data. Lectures are held Tuesday and Thursday 9:00-10:30 in 130, 85 Waterman.

Staff

CS1951A is taught by Ellie Pavlick (ellie_pavlick@cs.brown.edu).

Head TAs

The CS1951A Head TAs are

- Diane Mutako (dmutako)

- Joshua Levin (jlevin1)

- Sol Zitter (szitter)

UTAs

The CS1951A UTAs are

Arvind Yalavarti (ayalava2)	Mounika Dandu (mdandu)
Ben Gershuny(bgershun)	Natalie Delworth (ndelwort)
Huayu Ouyang (houyang1)	Nam Do (ndo3)
JP Champa (jchampa)	Nazem Aldroubi (naldroub)
Jon Weisskoff (jweissko)	Neil Sehgal (nsehgal)
Juho Choi (jchoi8)	Shash Sinha Sinha (ssinha11)
Karlly Feng (kfeng2)	Shunjia Zhu (szhu35)
Maggie Wu (mwu27)	Sunny Deng (ydeng11)
Marcin Kolaszewski (mkolasze)	Will Glaser (wglaser)
Minna Kimura-Thollander (mkimurat)	

Ethics TAs

The CS1951A Ethic TAs are

- Huayu Ouyang (houyang1)
- Ben Vu (bvu3)

Who should take this class?

Anyone who is interested in data science and its many components, including databases, visualization, and machine learning, should take this engaging survey course to explore an ever growing sub-field of computer science. Data science is becoming integral to all domains from materials science to business analytics.

The formal prerequisites to this course are CSCI 0160, 0180, or 0190. Additional experience in software engineering is recommended, including CSCI 0320 or 1320. This course is taught in Python 3.5, but no prior experience is necessary. We will provide several resources to get students started with Python at the beginning of the course. It is suggested that students also have experience in statistics (APMA 1650 or CSCI 1450) and linear algebra (MATH 0520, MATH 0540, or CSCI 0530) for the statistics and machine learning portion of this course.

Collaboration

Collaboration in this course is governed by a liberal collaboration policy, found on the resources section of the course website. **You must sign the collaboration policy before any of your work can be graded.** Failure to meet the standards set by the collaboration policy can result in failure and possible disciplinary action.

Contacting the Course Staff

Accommodations: If you have a question regarding something personal, e.g. accommodations that you need or circumstances of which we should be made aware, please contact **Ellie Pavlick** directly. These requests should be limited to cases in which the student is requesting formal accommodations (SEAS or Deans Notes). For legal reasons, TAs can not field requests about such accommodations, so please contact Ellie only about such matters. Include the course number (1951A) in the subject line, and please allow up to 3 days for a reply. Do not contact Ellie requesting extensions for anything other than SEAS or Deans Notes. The answer will definitely be "no", and, yes, she judge you a bit for having asked.

Grading and Logistics: If you have a question regarding logistics, please contact the **HTA list**. When replying to emails sent to a HTA list, please always reply all. Do not reply directly to a single TA unless requested to do so. In general, do not email a specific UTA except for grading complaints.

Everything Else: For all other questions, including those related to course material, please post your question on Piazza. If your question contains any code or pseudo code, we ask that you make your question private to the class. Otherwise, we would prefer if questions are made as public as

possible as to be a resource to the class at large. You are free to anonymize your question as to not reveal your identify to the class but not the course staff. We will observe quiet hours on Piazza from 12pm to 10am where instructors will not answer questions.

Grading

Grades will be determined according to the below weighting.

Section	Scoring
Labs	10%
Attendance	10%
Assignments	50%
Final Project	30%

Attendance

Attendance is tracked via iClicker participation with answers being asked in class. Students must attend two-thirds of all classes to receive full attendance credit. Questions in class **do not** have to be answered correctly to get credit (but please don't just mash B). You may fail to answer no more than one question during a certain class to receive credit for attending that day. iClickers may be set up on the course Canvas page.

Assignments

This course will have seven graded assignments, each worth equal points towards your final grade. The number of assignments may vary depending on the course content. More specific instructions regarding other details like handin scripts, etc. will be provided with each assignment.

Labs

Labs are designed to help with assignments and the deliverables for the final project. Lab slots are assigned during shopping period and are provided as Google Colab Notebooks. Students are expected to attend the lab slot to which they were assigned. Labs are 2 hours. If a student wants to swap labs permanently they should email the HTA list. If a student wants to swap lab for a single week, they should email the TAs for the lab they usually attend and the lab they want to swap into 48 hours in advance of the earlier of the two labs. If you attend a different lab without emailing, the TAs reserve the right to not check you off. Labs are graded as follows: 2 for completion; 1 for attempting/showing up to lab; 0 for no attempt. If you fail to complete the lab during the 2 hour lab period, you can complete it on your own time and have your lab TA check if off the following week. Your lowest lab grade will be dropped.

Final Project

Throughout the course, you will form a group of four students and work on a final project that will utilize all of the skills you have learned during the course. You will submit a pre-proposal early in the course and work closely with a mentor TA who will guide your project. All students in the project group will receive the same grade, regardless of how work was distributed.

Final Project as a Capstone

If you choose to use this course as a capstone, you will extend your project to have a full-fledged web application with an interactive component. For example, previous capstones have included web UIs for plotting roadtrips across the United States and restaurant recommendation apps. More details about the capstone requirements will be provided in the final project description/handout. If one person in a group plans to use the project for a capstone, the entire group will be held to the capstone standard (even if some group members are not using it as a capstone).

Resources

This class does not have a required textbook and there will be little to no required reading outside of lecture. Various resources, including an introduction to Python, may be found on the course website.

Late Days and Extensions Policy

All assignments are due at 11:59 pm. Students are given **7 late days** to use throughout the semester. If you are out of late days, you will be penalized 20% for each day it the assignment is late. You do not need to declare the use of late days in advance, we will track how many you have used.

Beyond late days and formal accommodations (SEAS or Deans Notes), there will be no extensions granted. Yes, unexpected things happen–you get sick, your plane gets delayed, you have interviews, etc. These aren't "special circumstances", they are just circumstances. Late days are intended to cushion the negative consequences of these circumstances, so plan accordingly. There is no gold star for completing the semester without having used your late days. If you need them, use them.

Note: No late days can be used on any component of the final project, unless specifically granted by Prof. Pavlick.

Incomplete Policy

We expect everyone to complete the course on time. However, we certainly understand that there may be factors beyond your control, such as health problems and family crises, that prevent you from finishing the course on time. If you feel you cannot complete the course on time, please discuss with Prof. Pavlick the possibility of being given a grade of Incomplete for the course and setting a schedule for completing the course in the upcoming year.

Diversity/Inclusion

General Information

Brown's computer science department is committed to diversity and inclusion, and strives to create a climate conducive to the success of women, students of color, students of any sexual orientation, and any other students who feel marginalized for any reason.

If you feel you have been been mistreated by another student, or by any of the course staff, please feel free to reach out to one of the CS department's Diversity and Inclusion Student Advocates, or to Professor Pavlick, or Professor Doeppner (the CS department's director of undergraduate studies)

or Professor Cetintemel (the CS department chair). We, the CS department, take all complaints seriously.

Inclusive Course Goals

In order to promote diversity and inclusion, we wish to achieve the following inclusive goals:

- To ensure that students of underrepresented gender and racial identities feel supported by their peers and the course staff.

- To acknowledge the important religious events and holidays of all cultures and provide any accomodations in case of an overlap with the course deadlines.

Please feel free to reach out to the HTAs if you have any suggestions regarding the mentioned goals or to discuss any issue regarding the same.

Accommodations

If you feel you have physical, psychological, or learning disabilities that could affect your performance in the course, we urge you to contact **SEAS**. We will do whatever we can to support accommodations recommended by SEAS.

Mental Health

Being a student can be very stressful. If you feel you are under too much pressure or there are psychological issues that are keeping you from performing well at Brown, we encourage you to contact Brown's Counseling and Psychological Services (CAPS). They provide confidential counseling. In addition, the deans of student life as well as the deans of the college can provide notes supporting extensions on assignments for health reasons.