**CSCI2952-M: The Works that Made and Changed Machine Learning**

**Instructor:** Prof. Eli Upfal (CIT 319) – [Eli\_Upfal@brown.edu](mailto:Eli_Upfal@brown.edu)

**Meeting Time and Place:** Mondays 3:00-5:30, CIT 316

**Website:** <http://cs.brown.edu/courses/csci2952-m/>

**Prerequisites:** No formal prerequisite

**Description:**

This seminar is aimed at current and potential future graduate students who want to gain technical depth and perspective on the field of statistical machine learning. Students will read, present, and discuss some of the original papers that had transformative impact on the development of machine learning. Topics will range from mathematical foundations, to major algorithmic, and breakthrough works on deep learning and its applications in vision and NLP. Ideal students will have a mix of: 1) motivation to learn how to read, present and evaluate technical papers, 2) mathematical maturity and basic ML background, 3) willingness to participate and contribute to discussions. Enrollment will be limited, and will be finalized after the first class.

**Format:**

1. Paper(s) assigned for each meeting will be posted on the course website a week before the meeting.
2. Students will read the assigned paper(s) and submit a 1-page writeup before the meeting, answering the following questions:
   1. What is the main contribution of the paper?
   2. Why is the contribution important (or note)?
   3. What is not solved in the paper? What research would you suggest following this paper?
3. Each student will have at least one class presentation
4. Each presentation will be followed by a class discussion

**Grading:** 50% paper presentation, 35% class participation, 15% writeup

**Time Requirements:** Total time spent in and out of class for this course is estimated at ~180 hours. Students will spend 3 hours in class each week (a total of 39 hours). Although specific out-of-class time investments may vary for individual students, a reasonable estimate to support this course’s learning outcomes is 150 -160 total out-of class hours, or on average, 11-14 hours weekly over a 13-week term.

**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 (https://www.brown.edu/campus-life/support/accessibility-services/). We will do whatever we can to support accommodations recommended by SEAS.

**Please review the Brown University Academic Code:**

http://www.brown.edu/academics/college/degree/sites/brown.edu.academics.college.degree/file s/uploads/Academic-Code.pdf

Violations of the Academic Code will lead to strict disciplinary action as outlined in the Code. Misunderstanding of the Code will not be accepted as an excuse for dishonest work.