CS7641: Machine Learning - Georgia Tech OMSCS Course Materials

Contents

Overview

Machine Learning is a three-credit course on, well, Machine Learning. Machine Learning is that area of Artificial Intelligence that is concerned with computational artifacts that modify and improve their performance through experience. The area is concerned with issues both theoretical and practical. This particular class is a part of a series of classes in Machine Learning, and takes care to present algorithms and approaches in such a way that grounds them in larger systems. We will cover a variety of topics, including: statistical supervised and unsupervised learning methods, randomized search algorithms, Bayesian learning methods, and reinforcement learning. The course also covers theoretical concepts such as inductive bias, the PAC and Mistake-bound learning frameworks, minimum description length principle, and Ockham's Razor. In order to ground these methods the course includes some programming and involvement in a number of projects.

The course is divided into three parts:

- Part 1 - Supervised Learning
- Part 2 - Unsupervised Learning
- Part 3 - Reinforcement Learning

Course Staff

Instructors

- Prof. Dr. Charles L. Isbell
- Prof. Dr. Michael L. Littman

Teaching Assistants

- Pushkar Kolhe (Course Developer)
- Himanshu Sahni
- Vivek Nabhi

Resources

- Syllabus
- Schedule

- Reading List
- Coding Resources
- Transcripts

Forums and Office Hours

The Instructors and TA's will primarily use Piazza for answering your questions. The TA's will also conduct office hours on Google Hangouts. Subscribe to our channel to find the schedule.

Exams

Exams will be proctored by ProctorU. Click here for detailed instructions on setting up your ProctorU account and scheduling your exams.

Academic Honesty

All Georgia Tech students are expected to uphold the Georgia Tech Academic Honor Code.

Orientation to GT OMSCS

- Orientation to the GT OMSCS Program

Minimum Technical Requirements

Minimum requirements for optimal student experience on Udacity:

- Browser and connection speed: An up-to-date version of Chrome or Firefox is strongly recommended. We also support Internet Explorer 9 and the desktop versions of Internet Explorer 10 and above (not the metro versions). 2+ Mbps recommended; at minimum 0.768 Mbps download speed
- Operating system: PC: Windows XP or higher with latest updates installed Mac: OS X 10.6 or higher with latest updates installed Linux: Any recent distribution that has the supported browsers installed

Georgia Tech Computing Guide
Georgia Tech's Office of Student Computer Ownership issues the following Minimum Hardware Requirements to incoming undergraduates. We recommend that you meet or exceed these guidelines to ensure you have sufficient computing power to complete all course work and assignments.

Video Downloads

Video downloads are available here and on T-Square

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