

DATA5000: Introduction to Data Science

Winter 2018

School of Computer Science

Carleton University

Description

The course covers topics relevant to data science: working with data, exploratory data analysis, data mining, machine learning. The concepts are illustrated using the R language. Students also receive introduction to IBM Cognos Workspace, IBM Watson Analytics and IBM SPSS Modeler. Students will be evaluated by their course projects. The course will be lecture-based and will also offer some hands-on tutorials. The project component will be flexible and will involve data collection, manipulation, and analysis.

Class Schedule

Lectures are held every Tuesday from 8:35 AM to 11:35 AM in TB 202 (Olga's class) and PA 115 (Elio's class).

Reading week: February 19-26, 2018 (no classes).

Course Website

http://olgabaysal.com/teaching/winter18/data5000_w18.html

Instructors

Dr. Olga Baysal

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Office: HP 5125D

Office Hours: by appointment or via Slack

Elio Velazquez

Email: elio.velazquez@carleton.ca

Office: N/A

Office hours: by appointment or via Slack

Course Schedule

- January 9, 2018 - Lecture 1: What is Data Science?/ Introduction to R (in TB 202).
- January 16, 2018 - Lecture 2: Working with Data (in TB 202).
- January 23, 2018 - Lecture 3: Visualization and Exploration.
- January 30, 2018 - Lecture 4: Data Mining and Machine Learning I.
- February 6, 2018 - Big Data and Parallelization (Spark/H2O) Tutorial (in TB 202) by Patrick Boily.
- February 13, 2018 - Lecture 5: Machine Learning II.
- February 20, 2018 - NO CLASS (Reading Week)
- February 27, 2018 - IBM SPSS Modeler Tutorial by Dennis Buttera (in TB 202).

- March 6, 2018 - IBM Watson Analytics Tutorial by Dennis Buttera (in TB 202).
- March 13, 2018 - Guest Lecture: Dr. Mike Hine (in TB 202).
- March 20, 2018 - Guest Lecture: Dr. James Green, Cindy Courtemanche and Jason Salares from Tableau (in TB 202).
- March 27, 2018 - Data Day Poster Competition (in HP 5345).
- April 3, 2018 - Project Presentations.
- April 10, 2018 - Project Presentations.

Evaluation

- Paper presentation: 10% (paper selection due January 23)
- Project proposal: 10% (due January 30, 11:59 PM)
- Presentation outline: 5% (due March 11, 11:59 PM)
- Data Day poster presentation: 5% (March 27)
- Project presentation: 20% (in class on April 03 and 10)
- Project report: 50% (due April 15, 11:59 PM)

University Policies

Student Academic Integrity Policy

Academic Integrity is everyone's business because academic dishonesty affects the quality of every Carleton degree. Each year students are caught in violation of academic integrity and found guilty of plagiarism and cheating. In many instances they could have avoided failing an assignment or a course simply by learning the proper rules of citation. See the [Academic Integrity](#) for more information.

Academic Accommodations for Students with Disabilities

The Paul Menton Centre for Students with Disabilities (PMC) provides services to students with Learning Disabilities (LD), psychiatric/mental health disabilities, Attention Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorders (ASD), chronic medical conditions, and impairments in mobility, hearing, and vision. If you have a disability requiring academic accommodations in this course, please contact PMC at 613-520-6608 or pmc@carleton.ca for a formal evaluation. If you are already registered with the PMC, contact your PMC coordinator to send me your Letter of Accommodation at the beginning of the term, and 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 me to ensure accommodation arrangements are made. Please consult the [PMC website](#) for the deadline to request accommodations for the formally-scheduled exam (if applicable).

Pregnancy obligation

Write to the 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.

Religious Obligation

Write to the 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.