

CMP SC 8370: Data Mining and Knowledge Discovery

Instructor: Prof. Jianlin Jack Cheng (<http://calla.rnet.missouri.edu/cheng/>)

Time: Mon & Wed, 4:00 am – 5:15 pm, Spring Semester, 2017

Class Location: Naka Hall 353

Office Hours: Mon & Wed, 3:30 pm – 4:00 pm in Naka Hall 109

Web Site: http://calla.rnet.missouri.edu/cheng_courses/datamining2017/

Objectives

The course introduces the main concepts and techniques of data mining to graduate students. It covers a variety of introductory and advanced data mining topics and methods, including data mining process, data preprocessing, mining frequent patterns, classification and prediction, cluster analysis, mining of sequence data, graph and network mining, mining of spatial, multimedia, text and web data, and major applications of data mining in industry and scientific research. From the course students can gain a set of essential data mining skills required for various industrial and academic positions in the age of *big data* explosion.

Textbook, Lecture Slides and Other Reading Materials

The optional text book is “*Data Mining: Concepts and Techniques*” by Han and Kamber, Morgan Kaufmann. The text book will be supplemented by lecture slides and some classic data mining papers posted at the course’s web site.

Assignments

There are *three* assignments comprised of theoretical / implementation questions throughout the course.

Homework assignment may be submitted to mudatamining@gmail.com before the due date (preferred method), or turned in to the instructor or the TA. Late assignments are penalized by 20% of the total points for each late day.

Projects

Students are required to work on a comprehensive group project to apply / develop data mining techniques to solve a real-world problem. Each group can have up to four students. Late projects are penalized by 20% of the total points for each late day. The project presentation, programs and report should be submitted to mudatamining@gmail.com.

Grading

Assignments, project report, project presentation, and class participation account for 25%, 25%, 25% and 25% of the grade, respectively.

Intellectual Pluralism

The University community welcomes intellectual diversity and respects student rights. Students who have questions or concerns regarding the atmosphere in this class (including respect for diverse opinions) may contact the Departmental Chair or Divisional Director; the Director of the Office of Students Rights and Responsibilities (<http://osrr.missouri.edu/>); or the MU Equity Office (<http://equity.missouri.edu/>), or by email at equity@missouri.edu. All students will have the opportunity to submit an anonymous evaluation of the instructor(s) at the end of the course.

ADA

If you need accommodations because of a disability, if you have emergency medical information to share with me, or if you need special arrangements in case the building must be evacuated, please inform me immediately. Please see me privately after class, or at my office.

Office location: _____ Office hours: _____

To request academic accommodations (for example, a notetaker or extended time on exams), students must also register with the Office of Disability Services, (<http://disabilityservices.missouri.edu>), S5 Memorial Union, 882-4696. It is the campus office responsible for reviewing documentation provided by students requesting academic accommodations, and for accommodations planning in cooperation with students and instructors, as needed and consistent with course requirements. For other MU resources for students with disabilities, click on "Disability Resources" on the MU homepage.

Academic Integrity

Academic integrity is fundamental to the activities and principles of a university. All members of the academic community must be confident that each person's work has been responsibly and honorably acquired, developed, and presented. Any effort to gain an advantage not given to all students is dishonest whether or not the effort is successful. The academic community regards breaches of the academic integrity rules as extremely serious matters. Sanctions for such a breach may include academic sanctions from the instructor, including failing the course for any violation, to disciplinary sanctions ranging from probation to expulsion. When in doubt about plagiarism, paraphrasing, quoting, collaboration, or any other form of cheating, consult the course instructor.

Course Recording

University of Missouri System Executive Order No. 38 lays out principles regarding the sanctity of classroom discussions at the university. The policy is described fully in Section 200.015 of the Collected Rules and Regulations. *In this class, students may make audio or video recordings of course activity unless specifically prohibited by the faculty member. However, the redistribution of audio or video recordings of statements or comments from the course to individuals who are not students in the course*

is prohibited without the express permission of the faculty member and of any students who are recorded. Students found to have violated this policy are subject to discipline in accordance with provisions of Section 200.020 of the Collected Rules and Regulations of the University of Missouri pertaining to student conduct matters.