Web Analytics and Mining
MET CS 688

Instructor:
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Office hours: by appointment

Class Time: Thursday from 6:00pm to 9:00pm,
Location: CAS 208
Semester Starts: 5/25/2017 to 8/10/2017.

Course Description

The Web Analytics and Mining course covers the areas of web analytics, text mining, web mining, and practical application domains. The web analytics part of the course studies the metrics of web sites, their content, user behavior, and reporting. Google analytics tool is used for collection of web site data and doing the analysis. The text mining module covers the analysis of text including content extraction, string matching, clustering, classification, and recommendation systems. The web mining module studies how web crawlers process and index the content of web sites, how search works, and how results are ranked. Application areas mining the social web and game metrics will be extensively investigated. In addition, certain aspects of Internet of Things (IoT) will be illustrated.
This is a laboratory course.

Course Prerequisites

MET CS 544 - Foundations of Analytics

Course Grading Policy

The course grade will be based on active class participation and quizzes (10%), assignments (20%), midterm exam (35%), and a term project (35%). Assignments are expected to be submitted by their respective due dates. Late submissions carry a penalty.

Course Topics

Module 1 - Web Analytics

- Metrics
- Key performance indicators
- Referrers and visitors
- Identifying important pages
- Web site visibility

Module 2 - Web Analytics Tools

- Using Google Analytics
- Collecting data with Google Analytics
- Dimensions and Segmentation
- Flow visualization, navigating reports

Module 3 - Text Mining

- Preprocessing and content extraction
- Searching and fuzzy string matching
- Clustering text
- Classification, categorization, and tagging
- Question answering systems

Module 4 - Web Mining

- Web Crawlers, Indexing
- Searching, precision and recall
- Ranking
- IoT (Internet of Things)

Module 5 - Applications - Mining the Social Web

- Twitter - trending topics, Facebook - Social Graph API
- LinkedIn - Clustering colleagues, Google - Document Similarity

Module 6 - Applications - Game Analytics

- Game metrics, telemetry, and analytics
- Telemetry collection and tools
- Game data analysis and visualization
- Case studies

Reference Textbooks

Michael Beasley, Practical Web Analytics for User Experience: How Analytics can help you Understand your Users, Morgan Kaufmann, 2013.

Grant S. Ingersoll, Thomas S. Morton, and Andrew L. Farris, Taming Text: How to find, organize, and manipulate It, Manning Publications, 2013.

Matthew A. Russell, Mining the Social Web, 2nd Edition, O'Reilly, 2013

Magy Seif El-Nasr, Anders Drachen, Alessandro Canossa, eds., Game Analytics: Maximizing the Value of Player Data, Springer, 2013.

Course Web Site
>   http://learn.bu.edu

Student Conduct Code
>   http://www.bu.edu/met/for-students/met-policies-procedures-resources/academic-conduct-code/