531 Human Interaction in Information Retrieval
University of Michigan School of Information Winter 2017

Class Meets: Mondays 1-4 PM in NQ 2185
Class Email list: SI-531-001-WN2017-A@courses.umich.edu
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Office Hours: Mondays 4 – 5 pm, Tuesdays 11 am – noon, or by appointment

COURSE OVERVIEW
This course explores search user experience, search behavior, and evaluation in information retrieval systems. The purpose of this course is to introduce theory, research, and practice in relation to search user interfaces, search behavior, search interaction, search user experience, evaluation measures and methods for information retrieval evaluation. Students will be encouraged to consider the nature of interaction with information in various search contexts, including Web search engines, experimental information retrieval systems, collaborative search, social search, multimedia information retrieval, and mobile search. Students will have opportunities to discuss and critique empirical user studies in the field of information retrieval, focusing on user experience and human-centric evaluation to assess the quality of search systems.

LEARNING OBJECTIVES
Upon completion of this course, students will have:
(1) An understanding of the fundamental concepts and major models in the field of interactive information retrieval
(2) Familiarity with the state of the art of search interface design and design challenges in search systems
(3) Familiarity with search user experience in various search systems
(4) Skills and knowledge in designing experimental studies to evaluate information retrieval systems
(5) An ability to apply appropriate criteria and measures for information retrieval evaluation.

EXPECTATIONS
All students in 531 are expected to:
(1) Course Readings: Read the course readings critically in advance of the class session. The readings are available on our SI 531 Canvas site.
(2) Before-class Questions “What I want to know”: post one question to the 531 Before- and After-Class Questions and Reflections.
(3) After-Class Reflections “What I learned this week”: Once the class is over each week, go back to 531 Before- and After-Class Questions and Reflections and write up your reflections about lectures, readings, and discussions.
(4) Canvas: Check out the 531 Canvas site on a regular basis. Course readings, lecture notes, assignment instructions and grading rubrics, assignment examples, grading feedback, and other course-related resources will be communicated via the 531 Canvas site.

COURSE MATERIALS
Required readings: The readings are available on our SI 531 Canvas site (see: Files – Required Readings).
There is no textbook for this course. However, we will read multiple chapters from these three books as course readings.


COURSE REQUIREMENTS AND EVALUATION

In-Class and Online Participation: 10%
Topic Presentation and Discussion: 10%
SERP (Search Engine Results Page) Assignment 15%
Critique of Two Search Systems: 20%
Term Project: Research Design Report: 10%
Term Project: IR System Evaluation Research Project Proposal: 35%

- I use a 100-point scale to grade papers. To be fair to students who have worked hard to meet the deadline, points will be deducted for late submissions (2 points per day, including weekends).
- In terms of turning in assignments late, exceptions may be made in some exceptional circumstances, but you must contact me in advance. Assignments will be accepted late without a penalty only with prior consent of the instructor and in situations where there is a legitimate reason.
- Assignment Guidelines and rubrics for each assignment will be available on Canvas – Assignments.
- All assignments should be handed in using Canvas.
- Every paper should include the course number, a unique title, the submission date, your name, and your email address at the top of the first page of each assignment (no cover page).
- All citations should use APA (American Psychological Association) style. For more information on APA style, please see the Purdue University OWL guide: https://owl.english.purdue.edu/owl/resource/560/01/
- Although I will try my best to answer your questions about assignments promptly, please give me 48 hours to reply to your email. If you do not hear from me within 48 hours, resend your email for my attention. Include “531” in the subject line to get my attention quickly.

POINTS AND LETTER GRADE
98-100 = A+ 95-97.9 = A 90-94.9 = A-
88-89.9 = B+ 85-87.9 = B 80-84.9 = B-
78-79.9 = C+ 75-77.9 = C 70-74.9 = C-

CORE PUBLICATIONS IN INFORMATION RETRIEVAL

- ACM Transactions on Information Systems
- IP&M: Information Processing & Management
- JASIST: Journal of the Association for Information Science and Technology
- ASIST: Proceedings of the Association for Information Science and Technology
- SIGIR: Proceedings of the ACM International Conference on Research and Development in Information Retrieval
- CIKM: Proceedings of the ACM Conference on Information and Knowledge Management
ACADEMIC INTEGRITY
All written submissions must be your own original work. You may incorporate selected excerpts from publications by other authors, but they must be clearly marked as quotations and must be attributed appropriately. If you build on the ideas of prior authors, you must cite their work. You may obtain copy-editing assistance and you may discuss your ideas with others, but all substantive writing and ideas must be your own or be explicitly attributed to another person. See the Rackham Statement on Graduate Academic and Professional Integrity (http://www.rackham.umich.edu/policies/academic_policies/section10/) for the definition of plagiarism and associated consequences.

STUDENT MENTAL HEALTH AND WELLBEING
The University of Michigan is committed to advancing the mental health and wellbeing of its students. If you or someone you know is feeling overwhelmed, depressed, and/or in need of support, services are available. For help, contact Counseling and Psychological Services (CAPS) at (734) 764-8312 and https://caps.umich.edu/ during and after hours, on weekends and holidays, or through its counselors physically located in schools on both North and Central Campus. You may also consult University Health Service (UHS) at (734) 764-8320 and https://www.uhs.umich.edu/mentalhealthsvcs, or for alcohol or drug concerns, see www.uhs.umich.edu/aodresources.

For a listing of other mental health resources available on and off campus, visit: http://umich.edu/~mhealth/

STUDENTS WITH DISABILITIES
If you think you need an accommodation for a disability, please let me know at your earliest convenience. Some aspects of this course, such as the assignments, the in-class activities, and the way we teach, may be modified to facilitate your participation and progress. As soon as you make me aware of your needs, we can work with the Office of Services for Students with Disabilities (SSD) (http://www.umich.edu/~sswd/) to help us determine appropriate accommodations. SSD (phone: 734-763-3000) typically recommends accommodations through a Verified Individualized Services and Accommodations (VISA) form. I will treat any information you provide as private and confidential.
SCHEDULE

UNIT 1: SEARCH BEHAVIOR AND SYSTEM SUPPORT

Week 1 (January 9): Course Overview; History and Background

Week 2 (January 16): No Class - Martin Luther King, Jr. Day

Week 3 (January 23): Search User Interface Design

Week 4 (January 30): Search Behavior; Exploratory Search

Week 5 (February 6): Visualization for Search Interfaces
***SERP Analysis Due***
• Hearst, M. A. Chapter 8: Integrating navigation with search.
• Hearst, M. A. Chapter 10 Information visualization for search interfaces

UNIT 2: EVALUATION OF IR SYSTEMS

Week 6 (February 13): Relevance; Evaluation Criteria and Measures
*** Research Project Title and Abstract Due***

Week 7 (February 20): Evaluation Methodologies in IR; Experimental Design

Week 8 (February 27): Spring Break – No Class
Week 9 (March 6): ACM SIGIR Conference on Human Information Interaction and Retrieval (CHIIR) 
Week – Guest Speakers (TBD) 
*** Critique of Two IR Systems Due ***

Week 10 (March 13): Workshop Day: How to Collect and Analyze the Data for IR Evaluation

UNIT 3: OPPORTUNITIES AND CHALLENGES

Week 11 (March 20): Interactive Techniques; Search to learn and use
*** Research Design Draft Due ***

Week 12 (March 27): Multimedia Information Retrieval (Music and Image Retrieval)

Week 13 (April 3): Social and Collaborative Search

Week 14 (April 10): Mobile Search; Personalization and Contextualization

Week 15 (April 17): Discussions of Term Project; Opportunities and Challenges
*** IR System Evaluation Research Project Proposal Due ***