JOUR 779V/ JOUR 479V/ INFO 408I: Computational Journalism

Section: 0101, Fall 2019

Day and Time: Monday 10:00 AM - 12:45 PM

Lab: 2103 Knight Hall

Instructor: Dr. Naeemul Hassan

Phone: +1 301 405 2399

Email: nhassan@umd.edu

Office: 3100K John S. and James L. Knight Hall

Office Hours: 3:00 PM - 5:00 PM Monday or by appointment

Prerequisites:

Permission of the Philip Merrill College of Journalism

Goals:

This course is designed to teach the application of computational techniques in Journalism and Reporting. The topics include multi-dimensional data analysis, natural language processing, visualization, automated fact-checking and story generation, social media sensing and web data analysis. This course will also cover the necessity and impact of Journalistic ethics such as accountability, fairness, humanity, accuracy in designing computation solutions.

Learning Outcomes Expected:

At the successful conclusion of the course, students will be able to demonstrate the following skills-

- Fundamental Programming Concepts: How to apply fundamental programming concepts such as loop, function, conditional statements in solving programming challenges.
- Multi-dimensional Data Analysis: How to use programming concepts to analyze structured, multiple dimensional data and identify nontrivial information and patterns.
- Text Processing: How to apply natural language processing techniques to analyze text data such as news, microblogs, etc.
- Automated Content Gathering/Generation: How computation techniques can gather data automatically from various sources such as web, database, network, etc. and how to generate news stories automatically.

- Ethical Implications in Computing Solutions: How to understand the ethical implications of a computing solution or algorithm. What human factors should be considered in designing an algorithm.

Topics Covered:

- Introduction to Computational Journalism
    - Motivation
    - Challenges
    - Application
- Python Programming
    - Concept of Variables, Data Types
    - Data Structures [List, Dictionary]
    - Concept of Conditional Statements
    - Concept of Loop
    - Function
    - Introduction to Pandas
    - Data Processing in Pandas
    - Data Visualization
- Text Processing
    - Textual Unit (word, sentence, paragraph, etc) Segmentation
    - Part of Speech Identification
    - Entity Recognition
- Advanced Text Processing
    - Text Classification
    - Sentiment, Framing, Bias Analysis
    - Text Clustering
- Advanced Topics in Computational Journalism
    - Automated Content Generation
    - Factual Statement Identification
    - Automated Fact-checking and Credibility
    - Computational Approach to Media Bias

About the Instructor:

Dr. Naeemul Hassan is an assistant professor in the Philip Merrill College of Journalism and College of Information Science (iSchool) at the University of Maryland, College Park. His research interest involves the technical areas of database queries, data mining, and natural language processing. He finds technical applications in computational journalism and social media sensing. He received a Ph.D. in Computer Science from the University of Texas at Arlington in 2016. He served as an assistant professor in the computer and information science department at the University of Mississippi for three years before joining UMCP.

Required Readings and Texts:

There is no single textbook for this course. The instructor will provide teaching materials in slides, paper, and code format during the class.

Grading Policy:

- Programming Assignments: There will be 5-8 programming assignments during the whole course. They will have different weights depending on the complexity. In total, the programming assignments will carry 40% weight of the total grade. **There will be one programming assignment for graduate students only. This assignment will not be counted for undergraduate students.**
- Paper Presentation: You will need to present two research articles during the course. Each presentation will carry 10% of the total grade.
- Paper Review: You will write technical reviews of 3 research articles. The instructor will provide a list of research articles to choose from. Each review will carry 5% of the total grade.
- Final Project: There will be one big programming project. It will carry 20% of the total grade.
- In-class participation: Attendance isn't mandatory but highly encouraged. Your participation in the class in forms of active discussion, meaningful questioning, attendance will count towards class participation. In total, it will carry 5% of the total grade.

Deadlines. Everything is due by 11:59 PM on the due date. The deadline is automatically managed by Elms. You can still turn in an assignment after the deadline. However, you automatically lose 5 points per hour after the due time, till you get 0. We cannot waive the penalty, unless there was a case of illness or other substantial impediment beyond your control, with proof in documents.

Grading Rubric.

Programming Assignments. Each programming assignment will have several problems. Each problem will have some points assigned. You will earn full points if your program runs successfully and gives the correct output. Otherwise, you will earn partial credit depending on how close your output is (if the code runs successfully) to the correct output and how complete your code is (if it doesn't run successfully). There will be some points for documentation and proper use of comments.

Paper Presentation and Review. The grade will depend on how clearly you motivated the problem, articulated the technical contributions, constructively criticized the methods, and identified possible future improvement directions.

Minus and plus grading will be assessed as follows:

98-100 = A+

93-97 = A

90-92 = A-

88-89 = B+

83-87 = B

80-82 = B-

78-79 = C+

73-77 = C

70-72 = C-

68-69 = D+

63-67 = D

60-62 = D-

Below 60 = F

Grades will be recorded as soon as possible so that students can gauge their progress throughout the semester. I will also meet one on one with you, as warranted, to discuss your performance in the class.   Make an appointment with me if you need help!

Attendance and punctuality: It is important that you attend every class and show up on time. To do otherwise will negatively affect your grade because you will be missing instruction, class discussions, quizzes, and assignments. Please notify the instructor in advance, if possible, if you will be missing class due to illness or emergency, so that she or he can make arrangements to get notes to you.

Academic integrity:

Along with certain rights, students have the responsibility to behave honorably in an academic environment. Academic dishonesty, including cheating, fabrication, facilitating academic dishonesty and plagiarism, will not be tolerated. Adhering to a high ethical standard is of special importance in journalism, where reliability and credibility are the cornerstones of the field. Therefore, the college has adopted a "zero tolerance" policy on academic dishonesty. Any abridgment of academic integrity standards in a College of Journalism course will be referred to the university's Office of Student Conduct and the college's associate deans. To ensure this is understood, all students are asked to sign an academic integrity pledge at the beginning of the semester that will cover all assignments in this course. Students found to have violated the university's honor code may face sanctions, including a grade of XF for the course, suspension or expulsion from the university.

Religious holidays: There will be no tests or major assignments scheduled on religious holidays identified by the university. If you expect to miss a class during the semester due to a religious holiday, please notify the instructor in writing before the start of the second class.

Inclement weather: If the university closes due to foul weather (snow, ice, hurricanes, tornadoes, earthquakes) or other emergencies and class must be canceled, students will be advised of assignment adjustments by the instructor. We will likely use our class Elms site to make these notifications and/or conduct a virtual class. Please check the university's home page if in doubt about whether or not classes have been canceled on campus.

Names and self-identification: The University of Maryland recognizes the importance of a diverse student body, and we are committed to fostering equitable classroom environments. I invite you, if you wish, to tell us how you want to be referred to both in terms of your name and your pronouns (he/him, she/her, they/them, etc.). The pronouns someone indicates are not necessarily indicative of their gender identity. Visit trans.umd.edu to learn more. Additionally, how you identify in terms of your gender, race, class, sexuality, religion, and disability, among all aspects of your identity, is your choice whether to disclose (e.g., should it come up in classroom conversation about our experiences and perspectives) and should be self-identified, not presumed or imposed. I will do my best to address and refer to all students accordingly, and I ask you to do the same for all of your fellow Terps.

Students with disabilities: Students with a specific disability (permanent or temporary, physical or learning) needing accommodation during the semester should make an appointment to meet with the instructor as soon as possible after the first class. Students will be asked to provide the instructor with the accommodation letter developed for the student by the Accessibility and Disability Service on campus. To schedule an appointment with the ADS, call 301-314-7682 or stop by the Disability Support Service front desk in the Shoemaker Building,

Room 0106. The office is open Monday through Friday, 8:30 a.m. to 4:30 p.m. Find more on the process here: https://www.counseling.umd.edu/ads/start/eligibility/.

Additional support: The UMD Counseling Center provides personal, social and academic support services for UMD students. This includes individual, group and couples counseling, for anxiety, depression, stress, relationship problems, eating concerns, traumatic events and more.

For more on university course-related policies, please refer to The University's Office of Undergraduate Studies: http://www.ugst.umd.edu/courserelatedpolicies.html

For more on university course-related policies, please refer to The University's Office of Graduate Studies: https://gradschool.umd.edu/course-related-policies

As the instructor of this course, I reserve the right to adjust this schedule and assignments in any way that serves the educational needs of the students enrolled in this course.