Course Description

This course provides an in-depth coverage of various topics in big data from data generation, storage, management, transfer, to analytics, with focus on the state-of-the-art technologies, tools, architectures, and systems that constitute big-data computing solutions in high-performance networks. Real-life big-data applications and workflows in various domains (particularly in the sciences) are introduced as use cases to illustrate the development, deployment, and execution of a wide spectrum of emerging big-data solutions.

Required Background

Programming Skills

- Java, Python, or C/C++ in Linux

Prerequisite Courses

- Permission of instructor

Textbooks

- The Data Science Design Manual, Steven S. Skiena, ISBN 978-3-319-55444-0, Springer, 2017.
- Big Data in Practice: How 45 Successful Companies Used Big Data Analytics to Deliver Extraordinary Results, Bernard Marr, ISBN-13: 978-1119231387, Wiley, 2016.
- Big Data Technologies for Business. By Arben Asllani, Prospect Press, 2020.
- Big Data Analytics: From Strategic Planning to Enterprise Integration with Tools, Techniques, NoSQL, and Graph. By David Loshin, Elsevier, August 23, 2013.

Instructor

- Yijie Zhang, Email: yz829@njit.edu

- **Office Hours**: from 11:00 am to 12:00 pm (EDT) every Tuesday, starting on 09/10/2024

Evaluation
Grading components:

Homework	20%
Project	20%
Midterm	30%
Final Exam	30%

Grading scale*:

Grade	Score
A	90 ─ 100
B, B+	80 – 84, 85 – 89
C, C+	70 – 74, 75 – 79
F	Below 70

*Final grades will not be curved unless necessary.

Late Policy
Students are expected to complete work on schedule. Late work is not accepted unless prior arrangements are made with the instructor.

Academic Integrity and Student Conduct:

"Academic Integrity is the cornerstone of higher education and is central to the ideals of this course and the university. Cheating is strictly prohibited and devalues the degree that you are working on. As a member of the NJIT community, it is your responsibility to protect your educational investment by knowing and following the academic code of integrity policy that is found at: http://www5.njit.edu/policies/sites/policies/files/academic-integrity-code.pdf.

Please note that it is my professional obligation and responsibility to report any academic misconduct to the Dean of Students Office. **Any student found in violation of the code by cheating, plagiarizing or using any online software inappropriately will result in disciplinary action. This may include a failing grade of F, and/or suspension or dismissal from the university.** If you have any questions about the code of Academic Integrity, please contact the Dean of Students Office at dos@njit.edu"

Proctoring of Midterm and Final Exams
NJIT policy requires that all midterm and final exams must be proctored, regardless of delivery mode, in order to increase academic integrity. In this course you will be required to use an online proctoring module to ensure academic integrity for exams.

Class Period

First Day of Classes: 09/03/2024, Tuesday

Last Day of Classes: 12/11/2024, Wednesday

Final Exam: TBA

Final Grades Due: 12/23/2024, Monday