EST 371 Data science management

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Class time 10 to 12:50 Wednesday
Office time 2 to 4 Wednesday

Teaching Assistant: TBD

Course Description:
The concepts of big data, data science, cloud computing, and data visualization for technology management are introduced. They are explored in the context of the digital network revolution, characterized by social media, Internet of Things (IoT), and mobile devices as sources of big data. Services that use large amounts of data and the statistical and software tools that enable them are emphasized. The underlying networking infrastructure is explained as a function of cloud computing. The case studies focus on information and communications technologies for sustainable development (ICT4D).

Prerequisites: AMS 161 or MAT 132 or MAT 127; CSE 114; U3 or U4 standing

3 credits

COURSE LEARNING OBJECTIVES

This course will teach our student to understand what is Big Data and its services. How do cloud applications have been used and improved the most IT industries and big companies. In addition, they will learn basic concepts of data science such as LM, GLM, Tree, Knn and Kmeans. Some advanced model will be introduced. Finally, Deep Learning will also be covered along with the applications of Artificial Intelligence,

GRADING BREAKDOWN
20% Homework
35% Exam
45% Term Project

Commented [1]: provide number of exams and dates
Commented [2]: provide due date
### EST 371 DATA SCIENCE MANAGEMENT

#### COURSE CALENDAR

<table>
<thead>
<tr>
<th>WEEK</th>
<th>TOPIC</th>
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<thead>
<tr>
<th>Session #,</th>
<th>Date</th>
<th>Subjects</th>
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<tr>
<td>1</td>
<td>Jan 29</td>
<td>Introduction of Big Data</td>
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<tr>
<td>2</td>
<td>Feb 5</td>
<td>Cloud Computing Applications</td>
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<td>3</td>
<td>Feb 12</td>
<td>R and Statistics Business Intelligence 1</td>
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<td>4</td>
<td>Feb 19</td>
<td>Linear Modedule5 (LDA)</td>
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<td>5</td>
<td>Feb 26</td>
<td>Generalized Linear Module(GLM) Business Intelligence 2</td>
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<tr>
<td>7</td>
<td>Mar 4</td>
<td>Decision Tree and Random Forest</td>
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<td>8</td>
<td>Mar 11</td>
<td>Knn and Kmeans Business Intellect 3</td>
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<td>9</td>
<td>Mar 18</td>
<td>Neural network</td>
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<td>10</td>
<td>Mar 25</td>
<td>Review of Basic Data Science models Business Intelligence 4</td>
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<td>April 1</td>
<td>Exam</td>
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<td>11</td>
<td>April 8</td>
<td>Projects in Data Science Web Mining</td>
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<td>12</td>
<td>April 15</td>
<td>Advanced Model in Data Science</td>
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<td>13</td>
<td>April 22,</td>
<td>Intro to Deep learning Text Mining</td>
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<td>14</td>
<td>April 29</td>
<td>Basic CNN and RNN,</td>
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<tr>
<td>15</td>
<td>May 6,13</td>
<td>Projects</td>
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Text

R for every one by Lander

"Business Intelligence and Analytics" (ISBN: 978-0-13-305090-5)

### DISABILITY SUPPORT SERVICES (DSS) STATEMENT

If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Disability Support Services, ECC (Educational Communications Center) Building, room128, (631) 632-6748. They will determine with you what accommodations, if any, are necessary and appropriate. All information and documentation is confidential.

### ACADEMIC INTEGRITY STATEMENT

Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is
always wrong. Faculty are required to report any suspected instances of academic dishonesty to the Academic Judiciary. Faculty in the Health Sciences Center (School of Health Technology & Management, Nursing, Social Welfare, Dental Medicine) and School of Medicine are required to follow their school-specific procedures. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at http://www.stonybrook.edu/uaa/academicjudiciary/

CRITICAL INCIDENT MANAGEMENT
Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Judicial Affairs any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students’ ability to learn. Faculty in the HSC Schools and the School of Medicine are required to follow their school-specific procedures.

The materials in this course available online or via a website link are for the exclusive use of registered students currently enrolled in this course and may not be further distributed.

In addition to legal sanctions, violation of these copyright prohibitions may result in University disciplinary action.

This Syllabus and set of guidelines may be changed by the instructor at any time during the semester.

TECHNICAL REQUIREMENTS:
This course uses Blackboard for the facilitation of communication between faculty and students, submission of assignments, and posting of grades. You are responsible for having a reliable computer and Internet connection throughout the term.

The following list details a minimum recommended computer set-up:
PC with Windows XP, Vista 7 or 8
Macintosh with OS 10.4 or higher
Latest version of Chrome, Firefox or Explorer; Mac users may use Chrome, Firefox or Safari.
(A complete list of supported browsers and operating systems can be found on the My Institution page when you log in to Blackboard.)
2 GB RAM or higher
High speed internet connection
Speakers (either internal or external) or headphones
Ability to download and install free software applications and plug-ins (note: you must have administrator access to install applications and plug-ins).
Adobe Flash player with the latest update is crucial for playing multiple videos throughout the course.

DELIVERY MODE AND STRUCTURE:
This is an asynchronous, online course, meaning we have no formal meeting dates, you work when you can, but must observe due dates.

WE ARE PAPERLESS, Your course work will all be submitted through blackboard.
The course is accessible through the Blackboard learning management system. Using your net ID and password.

All course assignments and interactions utilize internet technologies. To engage, you must have reliable computer and internet access! Be sure to have a back-up system in place, such as a public library, just in case.

TECHNICAL ASSISTANCE

If you need technical assistance at any time, don’t hesitate to contact them they are very nice - and your fees pay for this service!

Visit the Stony Brook University Student Help Desk Page EMail: helpme@stonybrook.edu
(631) 632-9602 (technical support and Blackboard issues)
(631) 632-9800 (client support, wifi, software and hardware)

Live Chat: Chat Live with the TLT Student Help Desk!

For assistance after 5 PM or over the weekend, please contact the Open SUNY helpdesk at 1-844-673-6786 or OpenSUNYHelp@suny.edu