USC Marshall School of Business

DSO-428 **Data Warehouse and Data Mining:**
Essentials and Digital Frontiers of Big Data

Tuesday & Thursday
HOH415
4 units

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DSO428

Professor Tianshu Sun

- Work as a data scientist across Fortune 500, startups and government agencies including LivingSocial, Adobe, Ministry of Health and consult for firms in US and China on big data
- PhD in Information Systems/Taught at Smith School of Business, University of Maryland
- Interact with big data intensively using digital tools and help firms recruit big data talents
- Strive to bring knowledge and experience from a variety of firms to the class, and prepare students for data-related jobs (business analyst, data scientist, product manager, etc.)

Who should take the course?

- General education or NON-technical students interested in the state-of-the-art of big data – overview of key concepts and hands-on experiences at introductory level
- Business Major interested in the basics of big data management, analytics, digital tools.
- Students wanting a course with NO pre-reqs to prepare them for an intern or job in Business Analytics, Data Science, or other data-related jobs (marketing, finance, PM)

Course objectives

- Bring cutting-edge industry knowledge and experience to the class (lectures, guest speakers, course project), and prepare students for data-related jobs
- Provide hands-on experience at introductory level so you know how to work with big data in a firm using various state-of-the-art digital technologies and tools
- Solve real-world problems that require knowledge & skills around data/digital tools
- Use the course toward a number of different minors and majors (& careers)!

Key components

Big Data Management (How to process and manage big data using **Digital Technologies**):
- Basics of SQL and HiveQL (SQL on Hadoop)
- Data Warehouses and Data Marts
- Introduction to Big Data Digital Infrastructure (Hadoop, MapReduce, Spark)

Big Data Analytics (How to analyze big data for insights and applications with **Digital Tools**):
- Basics of Data Mining and Machine Learning
- Introduction of concepts and techniques of A/B testing (e.g. Optimizely platform)
- Data Tracking (e.g. Google Analytics) and Visualization (e.g. Tableau)

Big Data Landscape (How to find data jobs and seize opportunities with **Digital Innovations**):
- Careers in Big Data -- Required skills, and role and career path in Firms (Guest speakers)
- Business Opportunities and Startups in Big Data (Guest Speakers)